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Item 21 of the provisional agenda
**Self-evaluation of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009**

# Self-evaluation of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009

## Self-evaluation report 2012–2013

**Prepared by the Sustainable Energy Sub-programme and evaluated by the secretariat**

*Summary*

This note provides the findings of the self-evaluation of the ECE Subprogramme 5 Sustainable Energy for the 2012–2013 biennium. The purpose the self-evaluation was to assess the relevance, efficiency and effectiveness of the programme and activities dedicated to support the development and dissemination of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009). It presents an executive summary in section I, defines the scope of evaluation in section II and presents the findings in more detail in section III. The conclusions and recommendations for action are presented in section IV. The evaluation was conducted based on the Terms of Reference presented in Annex I. The follow-up action plan is included in Annex V.

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# I. Executive Summary

1. The United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009) is a universally acceptable and internationally applicable scheme for the classification and reporting of fossil energy and mineral reserves and resources and is currently the only classification in the world to do so. It provides a single framework on which to build international energy and mineral studies, analyze government resource management policies, plan industrial processes and allocate capital efficiently.

2. The purpose of this self-evaluation was to assess the efficiency, effectiveness and relevance of the programme and activities dedicated to support the development and dissemination of UNFC-2009.

3. The evaluation focussed on the development of UNFC-2009 from January 2002 to November 2013. As UNFC-2009 is a globally applicable framework classification for the purpose of this evaluation both UNECE and non-UNECE member States were included. Relevant stakeholders such as industry, international organizations and professional societies and associations were also included.

4. The methodology for this self-evaluation was a survey of all UNFC-2009 stakeholders and potential end-users. A detailed questionnaire was prepared and circulated electronically to all members of the Expert Group on Resource Classification, as well as other relevant experts and stakeholders identified during the desk review. The survey was undertaken on the basis of anonymity, all responses were confidential. The survey focussed on the following areas: benefits and disadvantages of UNFC-2009; implementation of UNFC-2009, including testing and use; UNECE as the venue to develop UNFC-2009; the Expert Group on Resource Classification and how it functions; education and outreach activities; and the UNFC-2009 web pages. The survey was sent to 1,018 experts and relevant stakeholders. A total of 221 responses were received, representing a response rate of 22 per cent.

5. Overall the feedback related to the services and support provided by the secretariat in the delivery of the programme work, notably organization of meetings of the Expert Group and the organization of UNFC workshops, was very positive. The programme of work related to UNFC-2009 is undertaken by one staff member at the P4 level with limited administrative support (approximately 25 per cent of one G5 staff member). A key conclusion is that additional support will be needed if the same level of support is to be maintained in the future as the programme is growing.

6. As the majority of the respondents (just under 80 per cent) indicated that, in their view, UNECE is the right venue to maintain and develop UNFC in the future and just under half of the respondents indicated that any obstacles to continued development of UNFC at UNECE can be managed, it can be concluded that UNFC-2009 stakeholders are generally supportive for work to continue under the aegis of UNECE and that any obstacles that may arise are considered to be manageable.

7. UNFC-2009 was finalized at the end of 2009 and became operational at the end of 2013. Testing and use of UNFC-2009 is now critical. The survey highlighted that 54 countries, organizations or companies have undertaken a case study, pilot study or mapping exercise on UNFC-2009, which is encouraging and demonstrates good interest in the system. The feedback that was provided on the testing will be of great value for the use and further development of the system.

8. Almost 90 per cent of respondents have visited the UNFC pages on the UNECE website. The feedback provided by the respondents on the quality of the UNFC web pages

was largely positive. A key improvement proposed is to make case studies on applying UNFC-2009 to solid minerals, petroleum and renewable energy readily available since the material is currently "lost" in web pages related to Expert Group meetings and UNFC workshops.

9. Development of a global classification system by a department with a regional mandate remains a challenge. The Sustainable Energy Division will continue to respond to the needs and requests of UNFC stakeholders in a professional, efficient and effective manner within the bounds of limited resources (human and financial). Efforts will continue to be made to secure contributions, both monetary and in-kind from member States and other UNFC stakeholders. The secretariat will also follow-up on some of the new ideas generated in the evaluation.

10. The results of the evaluation will be shared with the Expert Group on Resource Classification as an official meeting document for its fifth session, Geneva, 29 April–2 May 2014. The self-evaluation of UNFC-2009 is included as an agenda item at this meeting.

# II. Introduction

## A. Background

11. UNFC-2009 provides a global communications tool applicable to all extractive activities, covering solid mineral and fossil energy resources, including oil, natural gas, coal and uranium. As the only global system that allows different classifications to be unified to a single representation of the entire mineral or hydrocarbon resource endowment, UNFC-2009 has a major impact on the ability to accurately understand the availability of all non-renewable resources and hence facilitate the development of appropriate long-term energy policies. Designed to be internationally applicable and internationally acceptable, UNFC-2009 brings harmonization to terminology and definitions by using a powerful numerical codification system which applies to all fossil energy and mineral reserves and resources. UNFC-2009 is a global system and can be applied by both UNECE and non-UNECE member States. Work is underway to broaden the scope of application of UNFC-2009 to encompass renewable energy resources, which would for the first time provide a common classification system for both renewable and non-renewable energy projects and hence improve the view of the value of renewable resources in comparison to conventional energy commodities. The system is also being evaluated as a basis for classification of injection projects, e.g. for storage of carbon dioxide.

12. UNFC-2009 has been developed to meet, to the extent possible, the needs of applications pertaining to (i) international energy and mineral studies; (ii) government resource management functions; (iii) corporate business processes; and (iv) financial reporting standards.

13. UNECE has been working on development of the Framework Classification for over twenty years. Work first began in 1992 and the first version was published in 1997 and entitled "United Nations International Framework Classification for Reserves/Resources – Solid Fuels and Minerals Commodities". This version applies only to coal and solid minerals. In 1997, the United Nations Economic and Social Council (ECOSOC) in its decision 1997/226 invited the Member States of the United Nations, international organizations and the regional commissions to consider taking appropriate measures for ensuring worldwide application of the Framework Classification.

14. In 2001, an Ad Hoc Group of Experts was formed with the intention of extending the applicability of the system to oil, natural gas and uranium. This resulted in the

finalization of a version of the Framework Classification in 2004 entitled "United Nations Framework for Fossil Energy and Mineral Resources". In 2004, ECOSOC in its decision 2004/233 invited the Member States of the United Nations, international organizations and the regional commissions to consider taking appropriate measures for ensuring worldwide application of the Framework Classification. Subsequent revisions were then necessary to ensure alignment with the key minerals and petroleum classification systems. UNFC-2009 was agreed upon at the seventh session of the Ad Hoc Group of Experts and subsequently approved by the Committee on Sustainable Energy at its eighteenth session, 18-20 November 2009 (ECE/ENERGY/80, paragraph 21(g)). UNFC-2009 was issued as a publication in all the languages of the United Nations in 2010 (ECE ENERGY SERIES No. 39 and ECE/ENERGY/85).

15. In 2010, the Expert Group on Resource Classification was formed and at its first session in April 2010 started work on development of specifications. UNFC-2009 provides the high-level framework definitions to which specifications are needed; specifications set out the basic rules that are considered necessary to ensure an appropriate level of consistency and coherence in the application of the system. The specifications and accompanying documentation were finalized and agreed on by the Expert Group at its fourth session, 23–26 April 2013 and were subsequently approved by the Committee on Sustainable Energy at its twenty-second session, 21–22 November 2013.

## B. Purpose

16. The purpose of this self-evaluation was to assess the efficiency, effectiveness and relevance of the programme and activities dedicated to support the development and dissemination of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009). The evaluation also aimed to further assess how the work contributes to the attainment of the objectives of the subprogramme on sustainable energy.

## C. Scope

17. The self-evaluation focussed on the development of UNFC-2009 from January 2002 to November 2013. As UNFC-2009 is a globally applicable framework classification, for the purpose of this self-evaluation both UNECE and non-UNECE member States were included. Relevant stakeholders comprising industry, international organizations and professional societies and associations were also included.

## D. Methodology

18. Survey: a survey of all UNFC-2009 stakeholders and potential end-users was conducted in January 2014. A detailed questionnaire was prepared and circulated electronically to all members of the Expert Group on Resource Classification, as well as other relevant experts and stakeholders identified during the desk review. The questionnaire was reviewed by members of the Bureau of the Expert Group on Resource Classification and the representative of the Permanent Mission of the Republic of Latvia to the United Nations Offices in Geneva, prior to circulation.

19. Interviews: whilst interviews were originally envisaged in the Terms of Reference, in view of the number of responses received to the Survey and the comprehensive nature of the responses, interviews were not conducted.

# III. Findings

20. The survey comprised 38 questions. The survey was conducted on the basis of confidentiality. All responses were anonymous.

## A. Respondents

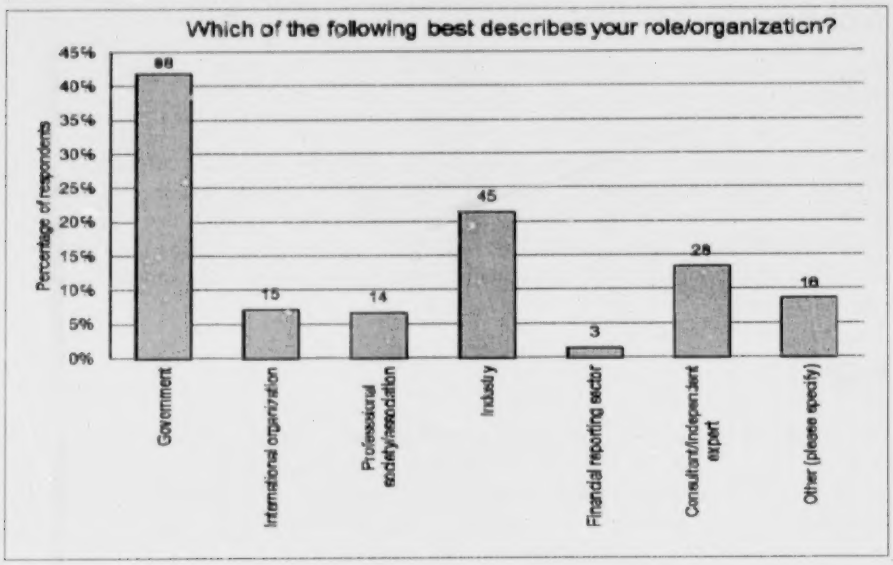
*Number of respondents:*

21. The survey was sent to 1,018 experts and relevant stakeholders. A total of 221 responses were received, representing a response rate of 22 per cent (it should be noted that not all respondents answered all of the questions).

*Profile of respondents:*

22. The majority of the respondents were from Governments as highlighted in Figure 1. Of those Governments, 36 per cent are UNECE member States.

Figure 1

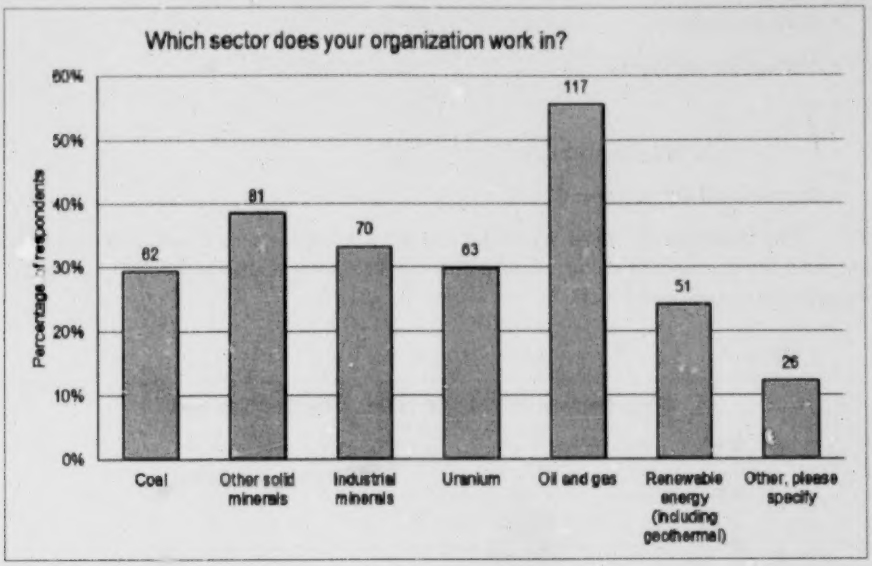



23. Those who indicated "Other" were equally split between academia and national research institutes/geological surveys.

*Sector represented:*

24. The majority of the respondents (55 per cent) are representatives of the oil and gas sector (see Figure 2).

Figure 2



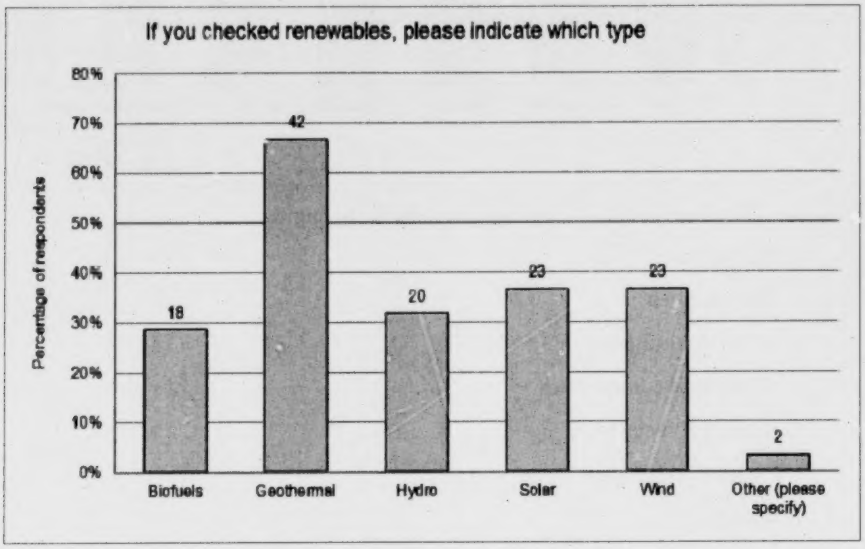

25. The responses to "Other, included the following:

- Aggregates
- Commodities
- All mineral resources
- All mineral commodities
- All except renewables
- Energy and Minerals
- Gemstone
- Metals
- Our institute is also studying the inventory of mineral resources of the country both metallic and non-metallic
- Construction materials (aggregates minerals, limestone, dolomite, cipholin, granite, sandstone)
- Land based and seafloor minerals
- Teaching and research
- EuroGeoSurveys works within the science of all raw materials and earth related energy products.
- $CO_2$ storage (geologic)
- Utilization of geological formations ($CO_2$ storage) and ores
- Mining Affairs, Ministry of Energy and Natural Resources
- Resources and reserves management
- Geosciences as a whole

- Geology, natural hazards, mineral processing, hydrogeology
- All geo energy
- Nuclear Power Plants
- All
- Environment and sustainability
- International Development.

26. The breakdown of those who represent the renewables sector indicated the majority are from the geothermal sector, with biofuels, hydro, solar and wind being approximately equally represented (see Figure 3).

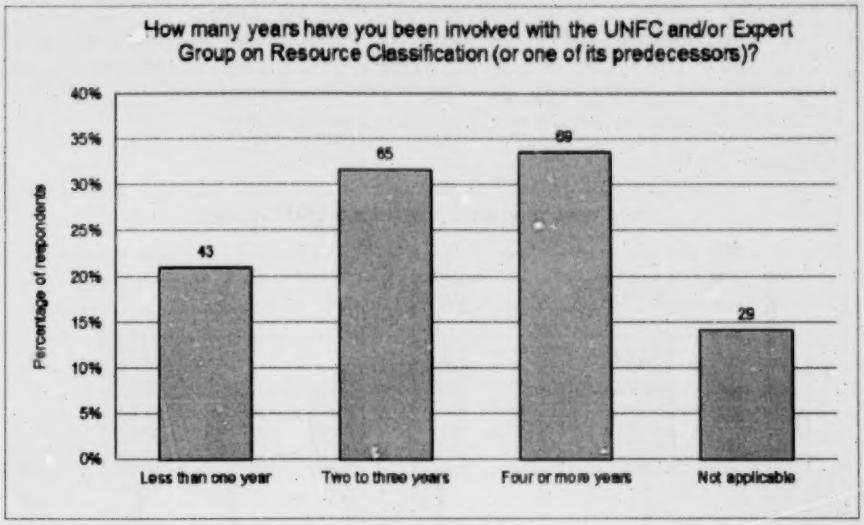
Figure 3




*Length of time involved with UNFC-2009 and/or the Expert Group on Resource Classification:*

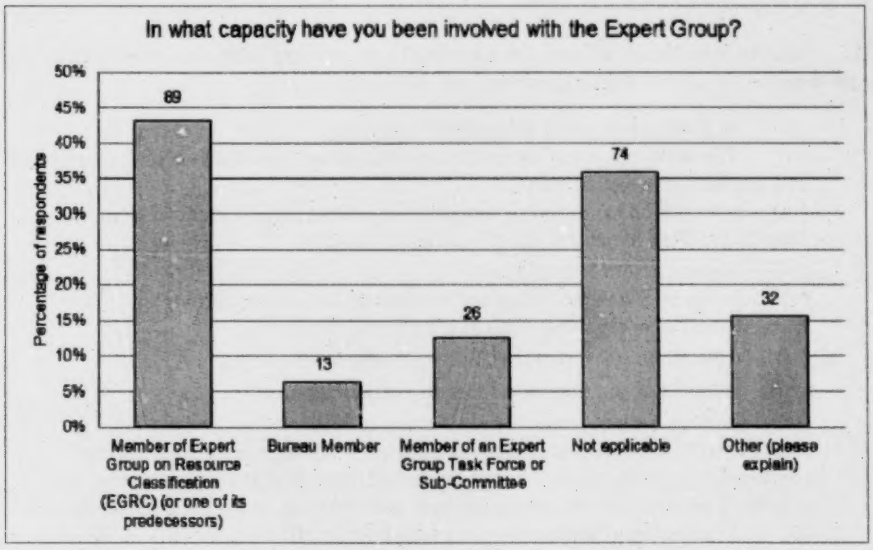
27. As highlighted in Figure 4, approximately 32 per cent of the respondents have been involved with UNFC and/or the Expert Group on Resource Classification for more than two years compared to 34 per cent who have been involved for four or more years.

Figure 4




28. Approximately 45 per cent of the respondents are members of the Expert Group on Resource Classification (or one of its predecessors) and almost 20 per cent of the respondents participate either as a member of the Bureau of the Expert Group or as a member of one of the Task Forces or Sub-Committees of the Expert Group (see Figure 5).

Figure 5




## B. Findings related to UNFC-2009

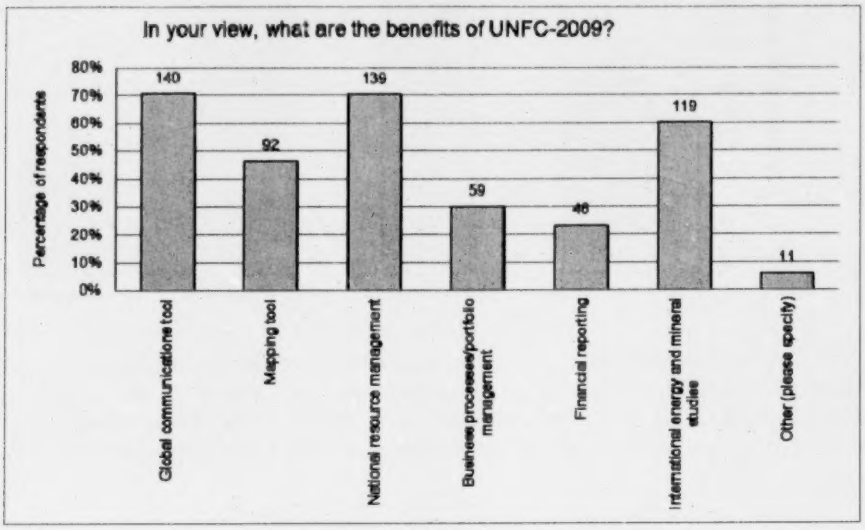
29. The comments herein are provided directly from the respondents without amendment, except to correct spelling errors.

*Benefits of UNFC-2009*

30. The key benefits of UNFC-2009 were rated by respondents in the following order (see also Figure 6):

(i) global communications tool (71 per cent rated positively)
(ii) national resource mapping tool (70 per cent rated positively)
(iii) international energy and mineral studies (60 per cent rated positively)
(iv) UNFC-2009's use as a mapping tool (47 per cent rated positively) and
(v) business process management (30 per cent rated positively), and
(vi) financial reporting (23 per cent rated positively).

Figure 6



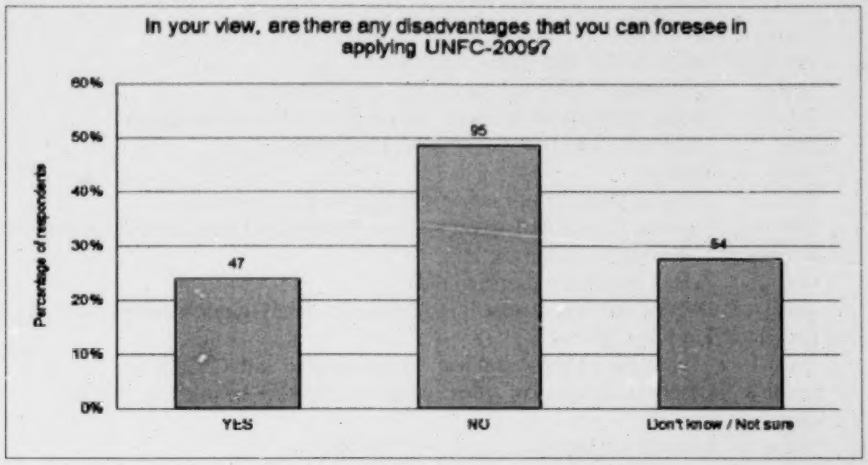

31. Respondents were offered an opportunity to provide additional comments on the other benefits of UNFC. Comments received included:

(i) Simplification of reserve quality reporting.
(ii) The achievement of an international standard however it is too complicated and cumbersome for industry.
(iii) It would be necessary to introduce an International Financial Reporting Standard (IFRS) to achieve an international standard.
(iv) Natural resource education.
(v) It can be a standard language of communication concerning the classification of energy and non-energy mineral resources.
(vi) Consideration of social viability of projects/resources.
(vii) Helps in evaluation of the reserves of the deposits.
(viii) Implicit United Nations endorsement of bridged frameworks.
(ix) UNFC-2009 allows cooperation between Governments, international corporate organizations and non-profit institutions. as well as independent experts. It is an excellent communication and information exchange platform.
(x) As an oil ministry we have not seen any benefit since there is no direct contact with the ministry.

*Disadvantages in applying UNFC-2009*

32. Just under half (48 per cent) of respondents indicated that in their view there are no disadvantages in applying UNFC-2009, which is a positive finding. However, 24 per cent indicated, that in their view there are disadvantages (see Figure 7). One explanation for this latter result could be due to UNFC-2009 being a new system that has only recently become operational (in November 2013) and therefore a period of testing and use is needed for experts to become familiar with the system.

Figure 7




33. Respondents were offered an opportunity to provide additional comments on the disadvantages of UNFC-2009. These comments are provided in full in Annex IV, section A. The comments largely related to UNFC-2009 being too granular and overly complex and therefore unlikely to be implemented; the need for training including how to address the costs associated with this; the current limited implementation of UNFC-2009; and, the non-requirement for a competent person.

*Implementation of UNFC-2009*

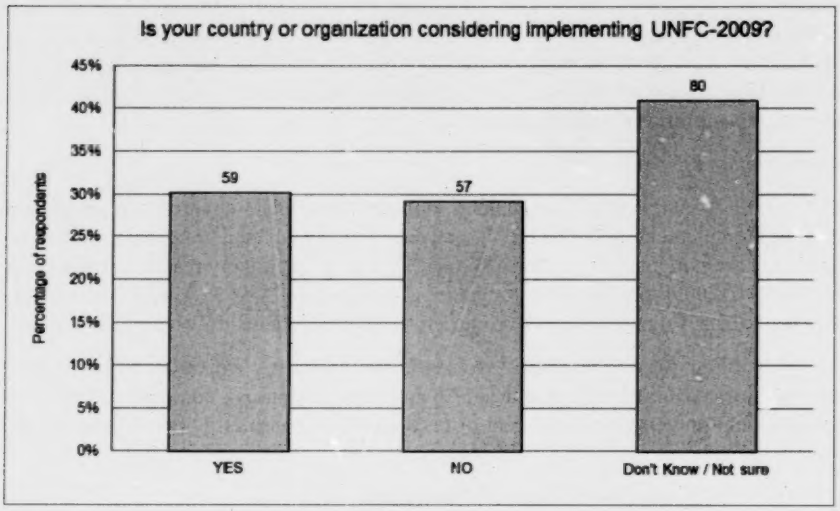
34. Some 30 per cent of respondents indicated that their country or organization is considering implementing UNFC-2009, however over 40 per cent are unsure and just under 30 per cent are not considering doing so (see Figure 8). One likely reason for this could be due to UNFC-2009 only becoming operational in November 2013. A period of testing and use is needed, as well as time and resources to conduct the global roll-out of the system.

35. According to the responses received, the following countries (79 per cent of responses), organizations and institutes (7 per cent of responses), companies (7 per cent of responses) and universities (3 per cent of responses) are considering implementing UNFC-2009:

(i) National Atomic Energy Commission, Argentina
(ii) Bulgaria, Ministry of Economy and Energy
(iii) Cameroon
(iv) Chile
(v) China
(vi) CUBAENERGIA
(vii) Ministry of Energy and Mines of Cuba
(viii) Hungary (the Hungarian Project Team on Harmonization of National Classification and Inventory of Mineral Resources based on International Standards and Frameworks serves all information necessary for the implementation. UNFC-2009/PERC/SPE-PRMS are in the focus but it cannot be an official answer and statement)
(ix) India – in India, UNFC is implemented for most of the minerals. It is not implemented for uranium, which under the control of the Government
(x) Malaysia, Minerals and Geoscience Department
(xi) Mozambique, National Petroleum Institute
(xii) Nepal, Department of Mines and Geology
(xiii) Nigerian Geological Survey Agency

(xiv) Norway, Norwegian Petroleum Directorate
(xv) Serbia
(xvi) Slovakia
(xvii) South Africa, Petroleum Agency SA
(xviii) Sri Lanka, Geological Survey and Mines Bureau
(xix) Sudan, Ministry of Minerals - Geological Research Authority
(xx) Thailand, Department of Mineral Resources
(xxi) Turkey
(xxii) Uganda, Ministry of Energy and Mineral Development
(xxiii) Uganda, Petroleum Exploration and Production Department, Ministry of Energy and Mineral Development
(xxiv) Addax Petroleum (Switzerland)
(xxv) DuPont - of course once it is extended in detail to renewable liquid fuels.
(xxvi) EuroGeoSurveys
(xxvii) EU has the ESMA recommendations aligned with CRIRSCO
(xxviii) Greece, University of Athens/Department of Economic Geology & Geochemistry
(xxix) Institute of Geology and Mineral Exploration.

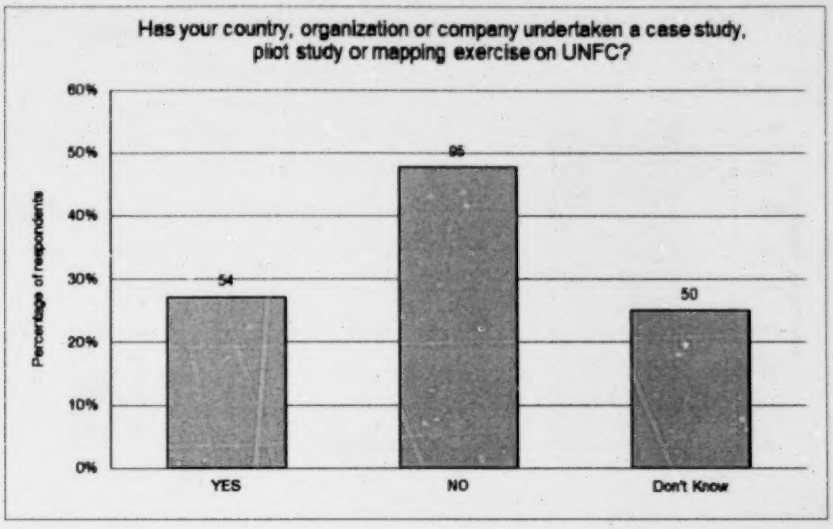
Figure 8




## C. Testing of UNFC-2009

36. In response to the question whether the respondent's country, organization or company has undertaken a case study, pilot study or mapping exercise on UNFC-2009, 54 responded positively (see Figure 9).

Figure 9




37. The feedback provided on the benefit derived in undertaking a case study, pilot study or mapping exercise is provided in Annex IV, section B.

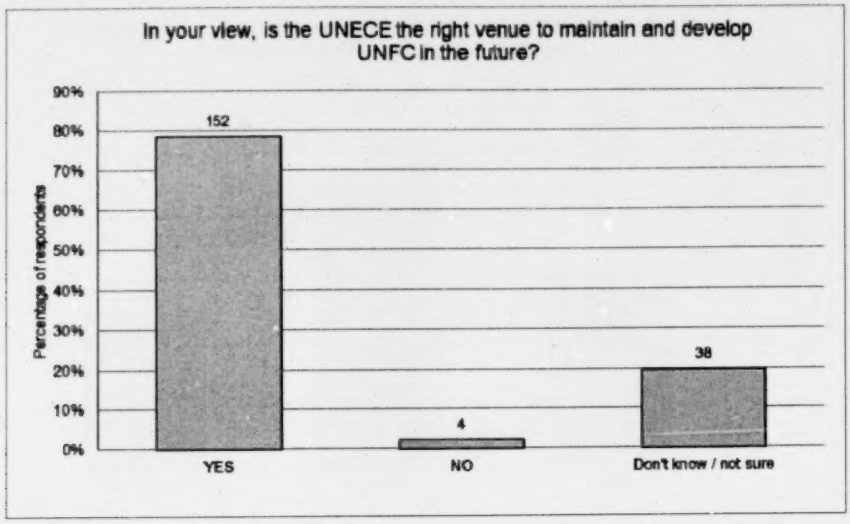
## D. UNECE as a venue to develop UNFC-2009

38. The majority of the respondents (78 per cent) indicated that UNECE is the right venue to maintain and develop UNFC in the future (see Figure 10). A significant proportion (20 per cent) of respondents said that they did not know, which could be explained by these respondents having only participated in a UNFC workshop(s) as opposed to an Expert Group meeting. Hence they would be less familiar with UNECE as an institution and its ability to manage global projects in spite of it being a regional commission.

39. Respondents were offered an opportunity to list alternative venues to UNECE and the feedback is provided below:

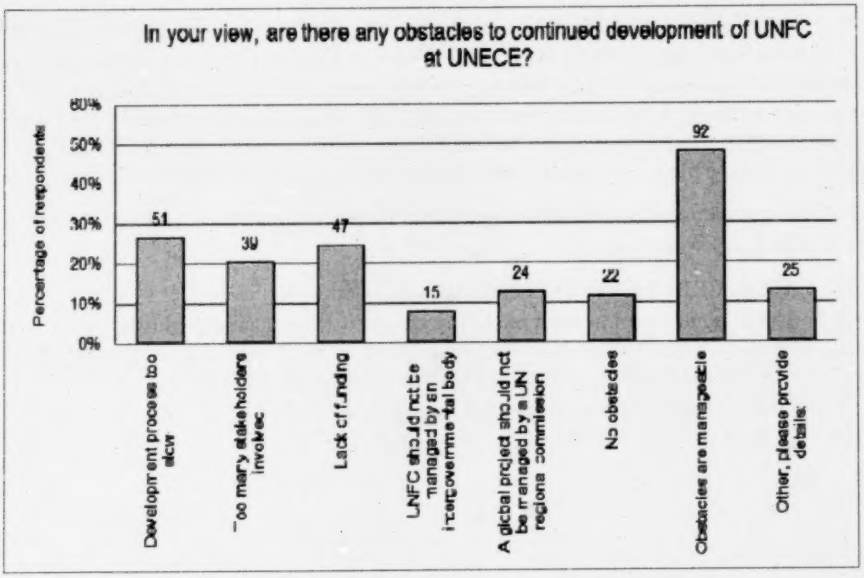
(i) Accept CRIRSCO family of codes as world standards.
(ii) There should be an International Financial Reporting Standard (IFRS).
(iii) What about the **United Nations** Commission on Sustainable Development (UN CSD) or the United Nations Environment Programme (UNEP)?
(iv) International organization (beyond Europe or developed countries).
(v) UNECE is primarily European, while energy is global.

Figure 10




40. In response to the question whether there any obstacles to continued development of UNFC at UNECE, 85 per cent agreed. However, 29 per cent of respondents indicated that any such obstacles are manageable (see Figure 11).

Figure 11



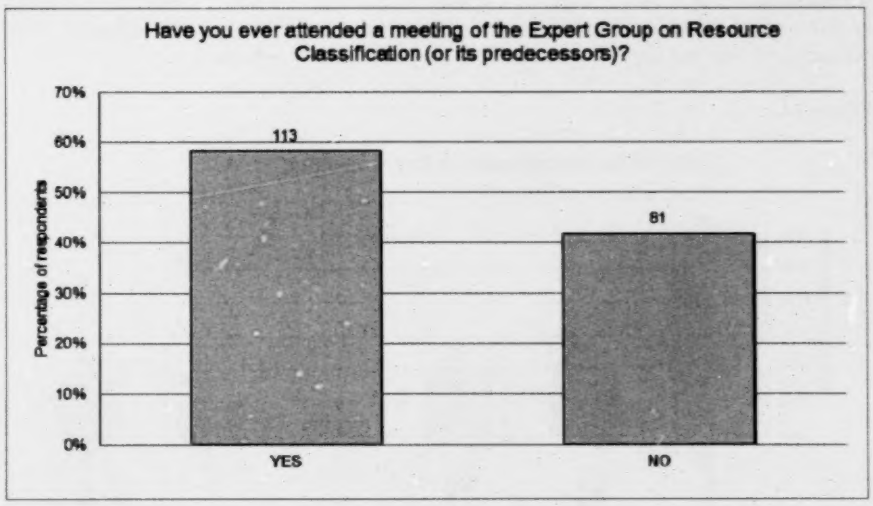

41. Respondents were offered an opportunity to provide additional comments on other obstacles to the continued development of UNFC at UNECE. In summary, these were in the following key areas: acceptance of UNFC, UNFC is a voluntary system, limited resources for capacity building and training programmes. The comments are provided in full in Annex IV, section C.

## E. Expert Group on Resource Classification

42. The programme of work related to UNFC-2009 is undertaken by one staff member at the P4 level, full time (125 per cent), with limited administrative support (approximately 25 per cent of one G5 staff member). There are currently no extrabudgetary resources allocated to the programme, which instead relies on the very significant and long-term in-kind contributions of the members of the Expert Group on Resource Classification, including Governments, the private sector, professional societies and associations, international organizations, academia and individual experts. These in-kind contributions have been provided in the form of time (man hours for direct work and travel time to and during events), direct sponsorship of events (including meetings, workshops, conferences, receptions) and travel (travel encompasses flights, hotel and other associated costs of participating at events). It is estimated by the Bureau of the Expert Group that current in-kind contributions to the work of the Expert Group are in the order of one to one and a half million USD per annum. This level of in-kind contributions will need to be maintained for the work of the Expert Group to continue, or alternatively be replaced by an equivalent level of extrabudgetary funding.

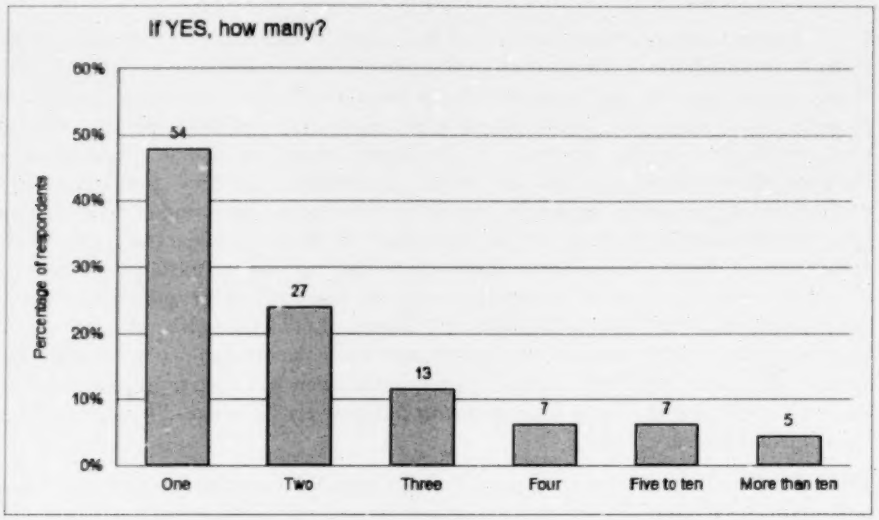
43. Just under 60 per cent of respondents have attended a meeting of the Expert Group on Resource Classification compared to just over 40 per cent who have not (see Figure 12).

Figure 12



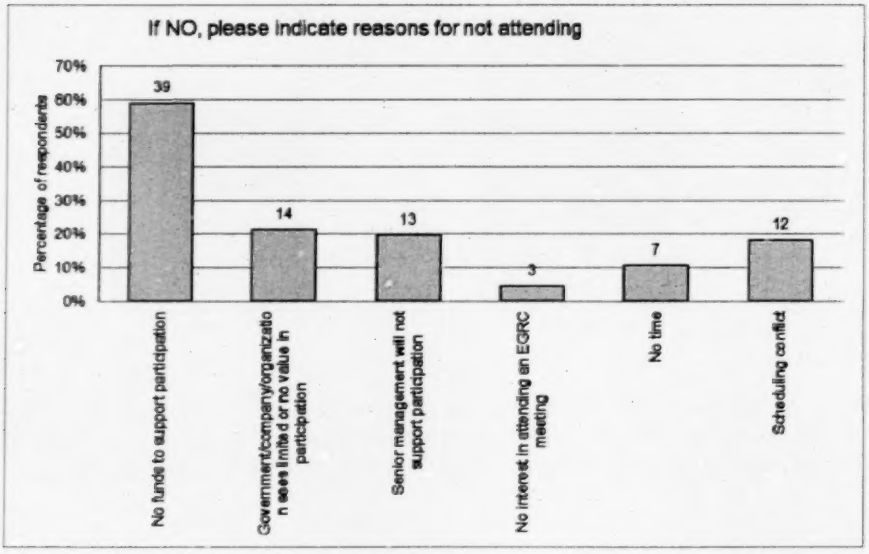

44. The number of meetings attended by respondents is provided in Figure 13, with 48 per cent having attended one session of the Expert Group, compared to 24 per cent who have attended two meetings. However, 28 per cent have attended three or more meetings.

Figure 13



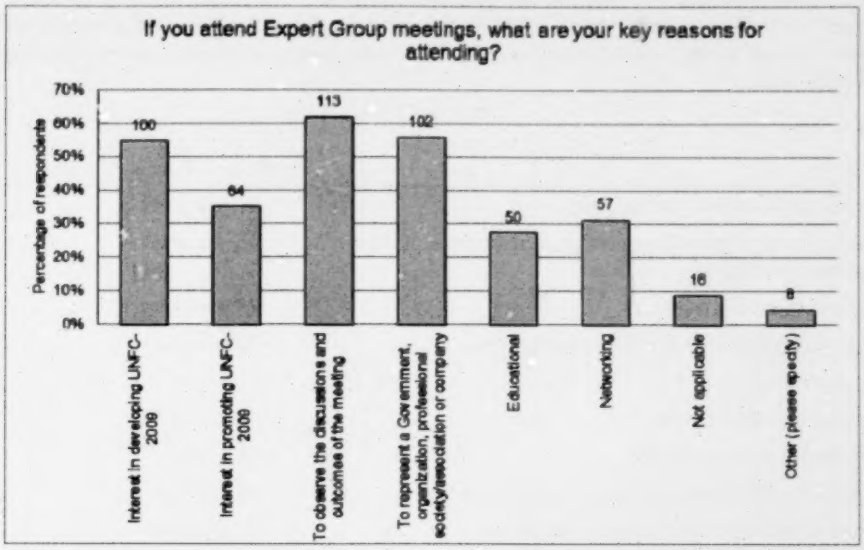

45. As illustrated in Figure 14, lack of funding was the key reason identified for not participating in an Expert Group meeting. Other reasons included: government/company/organization sees limited or no value in participation, senior management will not support participation, and scheduling conflicts.

Figure 14




46. The key reasons for attending Expert Group meetings were indicated to be: to observe the discussions and outcomes of the meeting; to represent a Government, organization, professional society/association or company; and an interest in developing UNFC-2009 (see Figure 15).

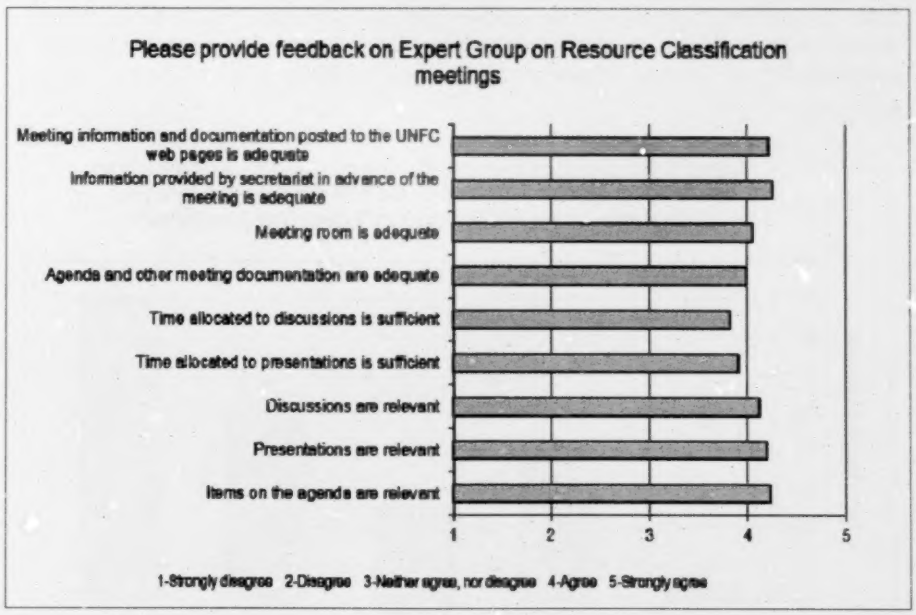
Figure 15




47. Respondents were offered an opportunity to provide additional comments on reasons for attending Expert Group meetings. In summary, these reasons included networking, learning opportunity, and exchange of experience. The comments are provided in full in Annex IV, section D.

48. Feedback related to the effectiveness and usefulness of meetings of the Expert Group on Resource Classification is provided in Figure 16.

Figure 16


Please provide feedback on Expert Group on Resource Classification meetings
Meeting information and documentation posted to the UNFC web pages is adequate
Information provided by secretariat in advance of the meeting is adequate
Meeting room is adequate
Agenda and other meeting documentation are adequate
Time allocated to discussions is sufficient
Time allocated to presentations is sufficient
Discussions are relevant
Presentations are relevant
Items on the agenda are relevant
1
2
3
4
5
1-Strongly disagree 2-Disagree 3-Neither agree, nor disagree 4-Agree 5-Strongly agree

49. The percentage of respondents who indicated that they either strongly agreed or agreed with the various criteria asked is provided in Table 1. From these responses, improvements to the allocation of time for discussion and presentations at the meetings could be made.

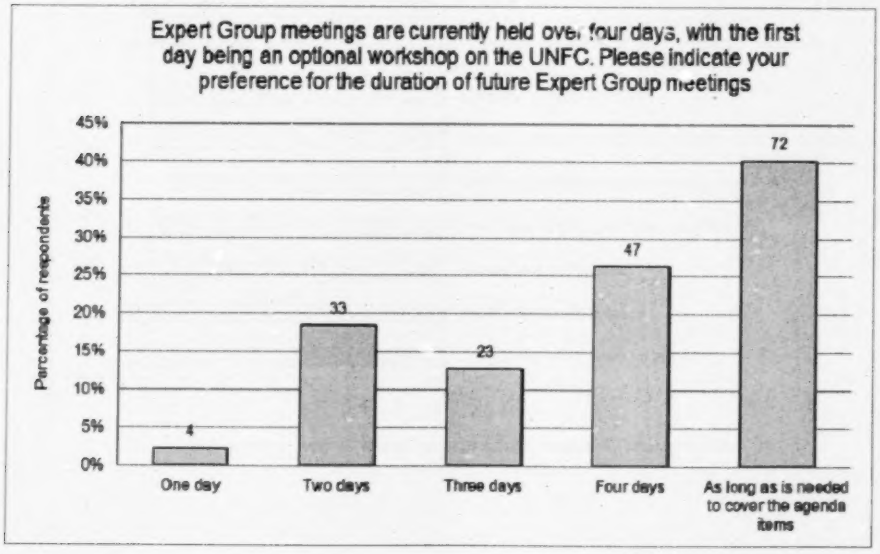
Table 1

| *Criteria* | *Strongly agree/Agree* |
|---|---|
| Items on the agenda are relevant | 77 per cent |
| Information provided by secretariat in advance of the meeting is adequate | 76 per cent |
| Presentations are relevant | 75 per cent |
| Agenda and other meeting documentation are adequate | 70 per cent |
| Discussions are relevant | 69 per cent |
| Meeting room is adequate | 64 per cent |
| Time allocated to presentations is sufficient | 59 per cent |
| Time allocated to discussions is sufficient | 57 per cent |

50. The feedback provided by respondents as to how Expert Group meetings could be improved included: more focussed discussions, financing of participants, allowing submission of written comments by those unable to attend, and allowing more time for time for discussion. The comments are provided in full in Annex IV, section E.

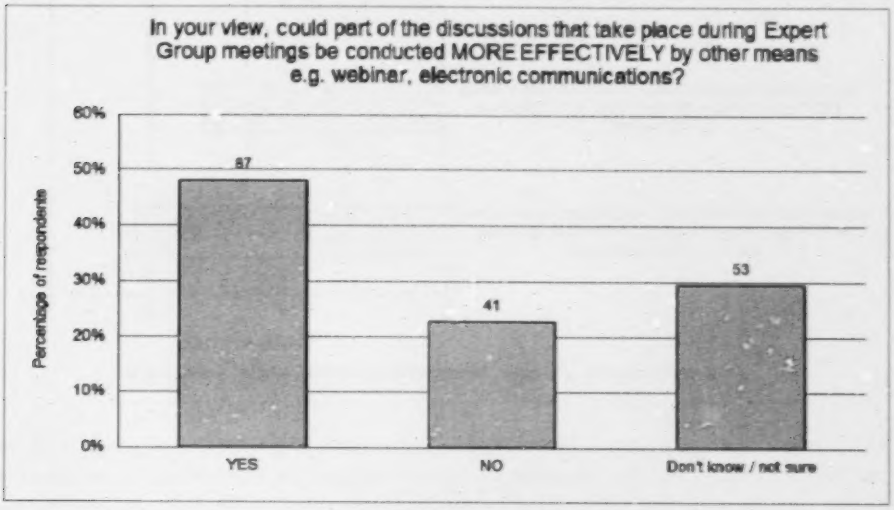
51. Expert Group meetings were traditionally held over three days, but in 2013 this was increased to four days at the request of the Expert Group. During the 2013 meetings, the Expert Group agreed to continue the practice of four days, with the first day being an optional workshop on UNFC-2009. When asked for their preference for the duration of future Expert Group meetings, 40 per cent of respondents indicated that meetings should be as long as is needed to cover the agenda items. 26 per cent of respondents indicated a preference for four days and 18 per cent for two days (see Figure 17).

Figure 17



52. The Sustainable Energy Division is making concerted efforts to communicate with stakeholders by electronic means where possible e.g. webinars, videoconferences, teleconferences. 48 per cent of respondents indicated that part of the discussions that take place during Expert Group meetings could be conducted more effectively by other means e.g. webinar, electronic communications. In contrast, 22 per cent stated that Expert Group discussions are most effective when conducted via face to face meetings (see Figure 18).

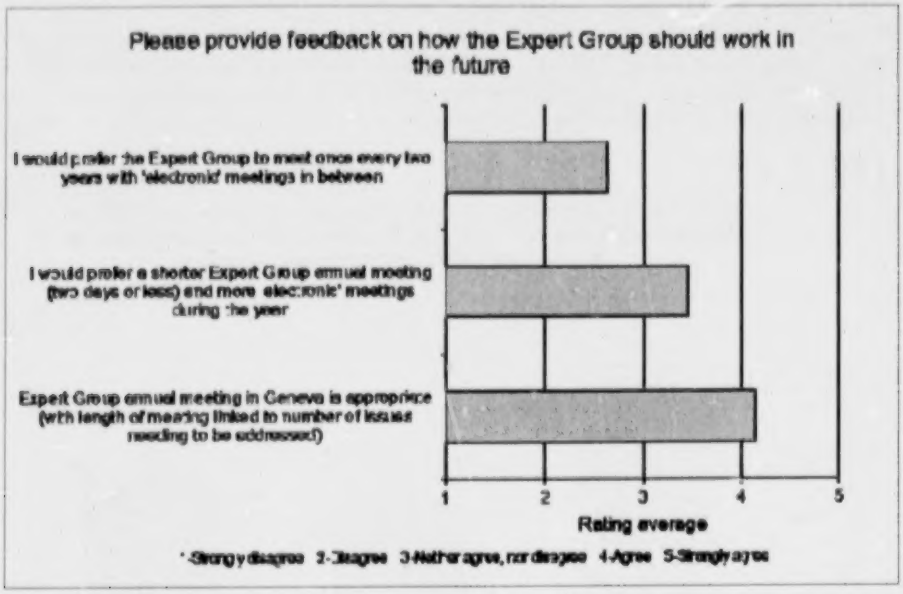
Figure 18




53. Respondents provided additional feedback in relation to conducting Expert Group discussions by electronic means. This highlighted a preference for increased electronic communications and for pre-meetings via electronic communications. The feedback is provided in full in Annex IV, section F.

54. Respondents were asked to provide feedback on how the Expert Group should work in the future (see Figure 19). 74 per cent of respondents either strongly agreed or agreed that the Expert Group annual meeting in Geneva is appropriate (with length of meeting linked to number of issues needing to be addressed), compared to 4 per cent who strongly disagreed or disagreed. 48 per cent of respondents either strongly agreed or agreed that they would prefer a shorter Expert Group annual meeting (two days or less) and more 'electronic' meetings during the year, compared to 21 per cent who either strongly disagreed or disagreed. 21 per cent of respondents either strongly agreed or agreed they would prefer the Expert Group to meet once every two years with 'electronic' meetings in between, compared to 48 per cent who either strongly disagreed or disagreed.

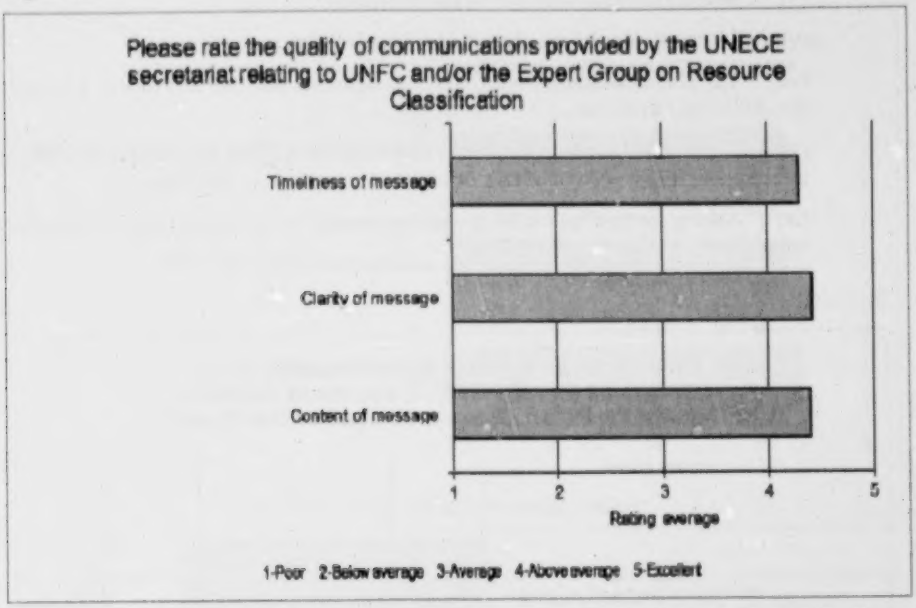
Figure 19


Please provide feedback on how the Expert Group should work in the future
I would prefer the Expert Group to meet once every two years with 'electronic' meetings in between
I would prefer a shorter Expert Group annual meeting (two days or less) and more 'electronic' meetings during the year
Expert Group annual meeting in Geneva is appropriate (with length of meeting linked to number of issues needing to be addressed)
1
2
3
4
5
Rating average
1-Strongly disagree 2-Disagree 3-Neither agree, nor disagree 4-Agree 5-Strongly agree

55. The additional feedback that was provided on how the Expert Group should work in the future, included: holding meetings away from Geneva; complementing the annual face to face meeting with more electronic meetings; having a shorter annual face to face meeting and more electronic meetings; and having fewer meetings either face to face or electronic. The feedback is provided in full in Annex IV, Section G.

56. The quality of communications provided by the UNECE secretariat relating to UNFC and/or the Expert Group on Resource Classification as rated by the respondents is provided in Figure 20. Just over 80 per cent of respondents rated the content of the messages as either excellent or above average, with 81 per cent rating the clarity of messages as excellent or above average and 75 per cent rating the timeliness of messages as excellent or above average.

Figure 20


Please rate the quality of communications provided by the UNECE secretariat relating to UNFC and/or the Expert Group on Resource Classification
Timeliness of message
Clarity of message
Content of message
1
2
3
4
5
Rating average
1-Poor 2-Below average 3-Average 4-Above average 5-Excellent

57. The additional feedback from respondents on the quality of communications provided by the UNECE secretariat relating to UNFC and/or the Expert Group on Resource Classification is provided below:

(i) UNECE secretariat support is excellent and the Expert Group would not run nearly as well without it.

(ii) The secretariat provides us with an excellent, friendly, professional and timely service.

(iii) There is a difference in levels of participation amongst delegates but that will always be, some aspects are personality, some are how important some see themselves.

(iv) My own personal view is that the organisation, structure and effectiveness of the current forum and secretariat is a shining example of an all-embracing body that treats all as equal, and valid and encourages all new to the group to participate.

(v) The secretariat does excellent work.

(vi) If it were not for the secretariat then Trinidad and Tobago would not have been part of the UNFC process.

58. With regard to the frequency of communications from the UNECE secretariat related to UNFC and/or the Expert Group on Resource Classification, 75 per cent of respondents either fully agreed or agreed that the secretariat circulates the appropriate number of messages (see Figure 21). The following additional feedback was provided:

(i) Regular updates and information preferred over just once a year all information might help to stay in touch with the subject.

(ii) Clearly the appropriateness of the number of communications is dependent on the relevant information to be discussed.

(iii) Good.

(iv) Need to increase frequency to keep on track.

(v) More communication would be beneficial.

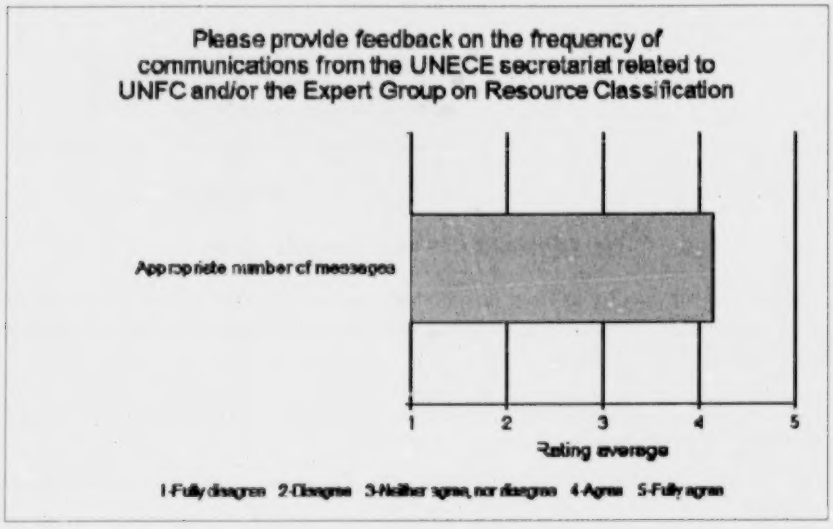
(vi) More regular updates though webinars /conference calls.

(vii) The communication from UNECE is rigorous, accurate and timely. I cannot recall any deviations from that.

(viii) I think there needs to be greater encouragement of the participants to exchange information, ideas, and comments. A questionnaire such as this helps.

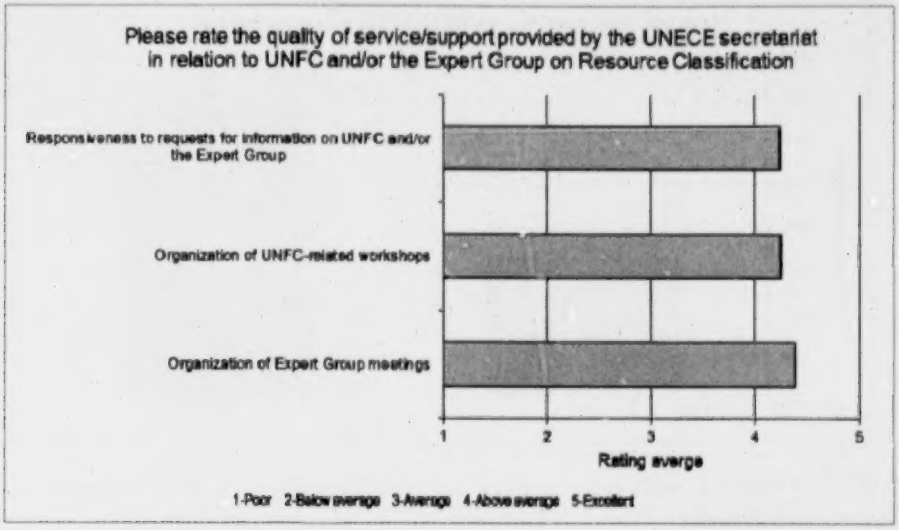
(ix) Asking for feedback is often abstract, asking for answers to specific questions is better.

Figure 21


Please provide feedback on the frequency of communications from the UNECE secretariat related to UNFC and/or the Expert Group on Resource Classification
Appropriate number of messages
1
2
3
4
5
Rating average

59. When rating the quality of service/support provided by the secretariat in relation to UNFC and/or the Expert Group on Resource Classification, 87 per cent of respondents rated the organization of Expert Group meetings as either excellent or above average, 84 per cent rated the organization of UNFC-related workshops as excellent or above average and 82 per cent rated the responsiveness to requests for information on UNFC and/or the Expert Group as excellent or above average (see Figure 22) .

Figure 22


Please rate the quality of service/support provided by the UNECE secretariat in relation to UNFC and/or the Expert Group on Resource Classification
Responsiveness to requests for information on UNFC and/or the Expert Group
Organization of UNFC-related workshops
Organization of Expert Group meetings
1
2
3
4
5
Rating average
1-Poor 2-Below average 3-Average 4-Above average 5-Excellent

60. The additional feedback received from respondents on the quality of service/support provided by the secretariat in relation to UNFC and/or the Expert Group is as follows:

(i) Unable to comment, except to indicate that in the past it has been my impression that the minutes did not necessarily reflect what had reported occurred at the meeting. However I understand this has improved considerably in recent years.

(ii) Very timely and professional assistance, excellent organization of meetings.

(iii) Perfect.

(iv) Never been to a workshop, so cannot comment. Otherwise first class.

(v) They are always ready to help and provide professional support.

(vi) Does the feedback and input you receive match the same level!

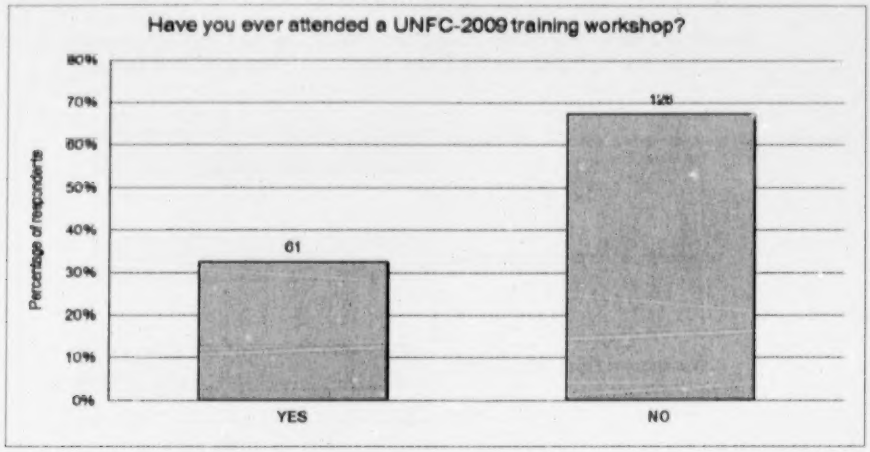
## F. Education and outreach

61. Education and outreach is a key component of the programme of work of the Expert Group. The Expert Group has a Communications and Education Strategy that is implemented by the Communications Sub-Committee of the Expert Group. A key pillar of the strategy is training and/or educational workshops on UNFC that are organized at a national or regional level. The Communications Sub-Committee was established at the first session of the Expert Group in April 2010 and the Communications and Education Strategy was developed and put in place in 2011. Post-workshop reviews are undertaken to see how the workshop programme and presentations might be improved for implementation at future events.

*UNFC workshops*

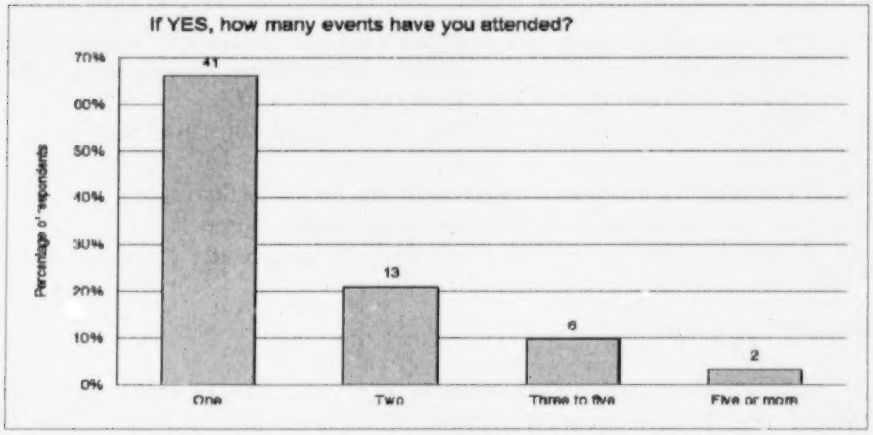
62. UNFC training workshops are held globally, with currently three or four organized per year. These are either national or regional events, with the exception of the workshop that is now held in Geneva as part of the annual Expert Group meeting. This workshop in Geneva attracts global participation. Workshops have been held in Africa, Europe, Latin America, South America, South-East Asia and Turkey. Just over 30 per cent of respondents have participated in such a workshop compared to 68 per cent who have never done so (see Figure 23).

Figure 23



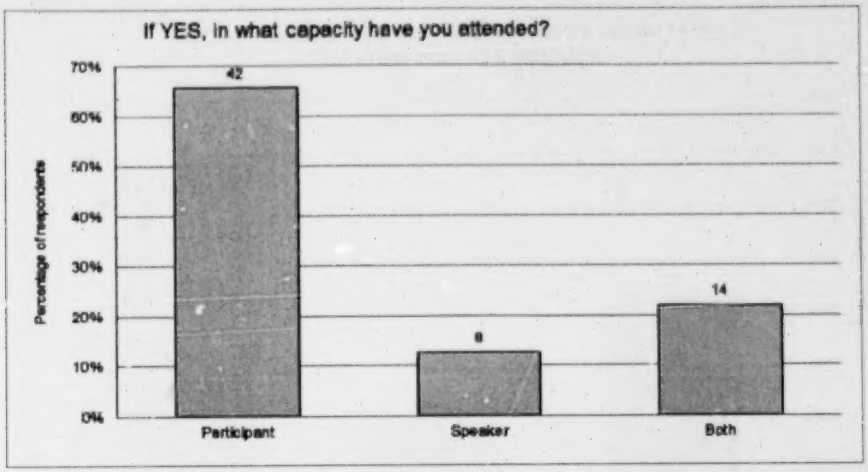

63. Of those who have taken part in a workshop, some 65 per cent have attended only one event, whilst some 20 per cent have taken part in two events (see Figure 24).

Figure 24



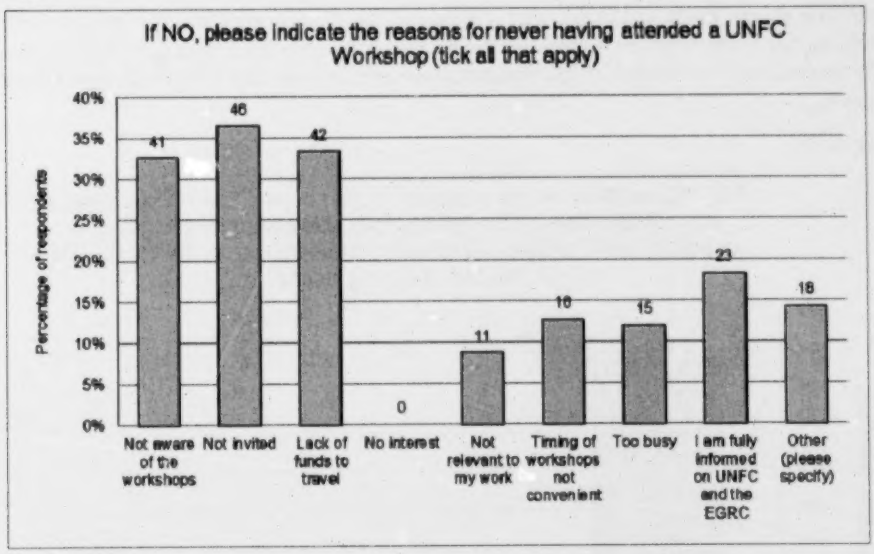

64. Some 65 per cent of respondents attended workshops as participants and 12 per cent as a speaker (see Figure 25).

Figure 25



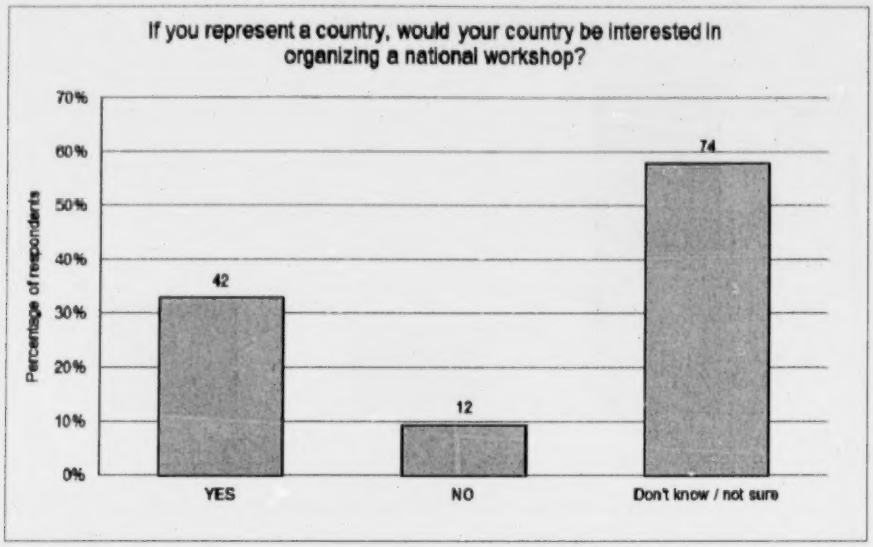

65. For those respondents who have never attended a workshop, the key reason for this is due to not being invited (this applied to 37 per cent of the respondents). Other key reasons highlighted (see Figure 26), included lack of funds to travel and not being aaware of the workshops. Notably, lack of interest is not a reason for not attending. Additional feedback is provided in Annex IV, Section H.

Figure 26



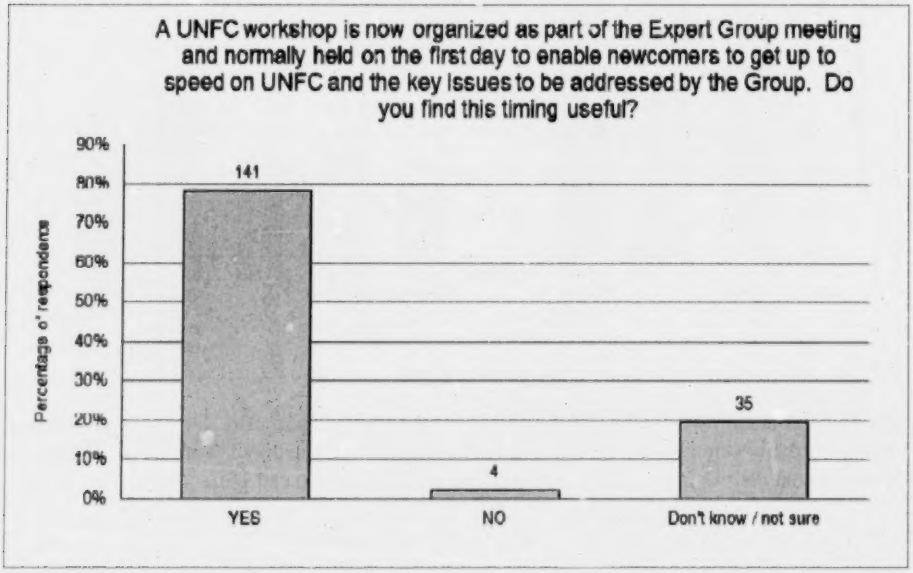

66. Of those respondents representing a country, 32 per cent (or 42 respondents) indicated their country would be interested in organizing a national workshop. However, nine per cent are not interested and 58 per cent did not know (see Figure 27).

Figure 27



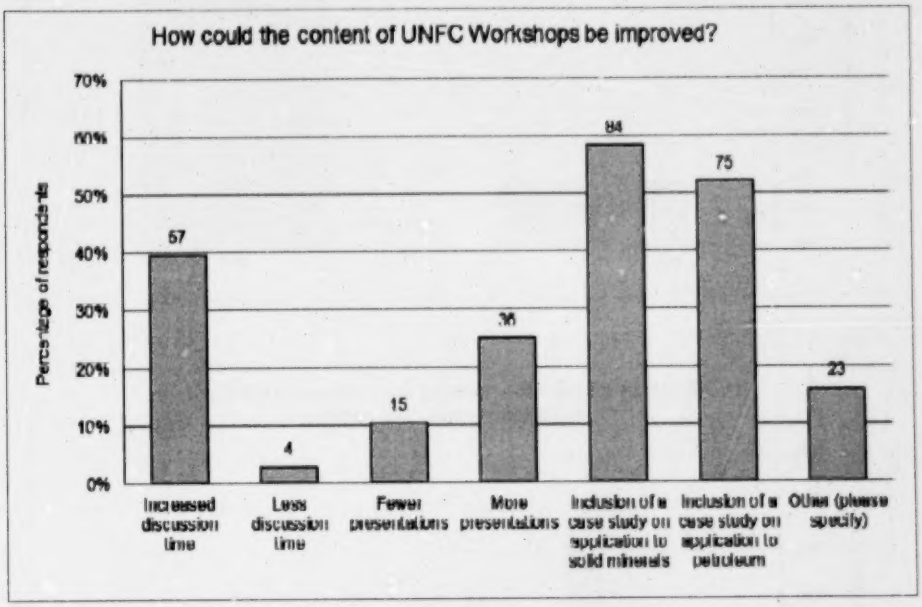

67. A UNFC workshop is now organized as part of the annual Expert Group meeting and normally held on the first day of the meeting to enable newcomers to get up to speed on UNFC and the key issues to be addressed by the Expert Group. 78 per cent of respondents find this timing useful, compared to two per cent who do not (see Figure 28) and 19 per cent who do not know or are not sure. A reason for so many respondents being unsure could be due to the workshop which is held back-to-back with the Expert Group being less of a training event as a result of increased discussion on topics tabled for the Expert Group meeting.

Figure 28



68. Respondents provided feedback on how the content of UNFC Workshops could be improved (see Figure 29). Just under 60 per cent indicated that a case study on application of UNFC to solid minerals should be included and over 50 per cent indicated that a case study on application of UNFC to petroleum should be included. Increased discussion time was proposed by 40 per cent of respondents.

Figure 29




69. The additional feedback from respondents as to how UNFC workshops could be improved is provided in Annex IV, section I. This feedback included: provision of an update on the status of UNFC, inclusion of discussion on application of UNFC to renewable resources, and seeking feedback from participants on any specific aspects they would like more information on.

*Teaching UNFC*

70. Just under 20 per cent of respondents indicated that they currently teach or have taught or lectured on UNFC (see Figure 30).

71. Lectures have been delivered in the following countries: Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, China, Colombia, Cuba, Finland, Germany, Greece, Hong Kong, India, Malaysia, Mexico, Mongolia, Mozambique, Norway, Peru, Poland, Portugal, Qatar, Russian Federation, Serbia, Spain, Thailand, Turkey, Uganda, United Arab Emirates, United Kingdom, United States, and Uruguay. Lectures are delivered to Government organizations, universities, national conferences and workshops, and international conferences and events.

72. The majority of the material presented on UNFC is self-generated. The areas to which the lecture material applies are provided in Figure 31, with almost 60 per cent applicable to solid minerals other than coal. Lectures also apply to the following topics:

(i) As a comparison tool for mapping some standards, for instance the Chinese 1999 National Standard to the CRIRSCO and JORC Code classification systems,

(ii) Although lectures focus on coal, material covers UNFC 2009 in general.

(iii) Mining related legislation.

(iv) General energy and extractive activity applications (project classification).

Figure 30

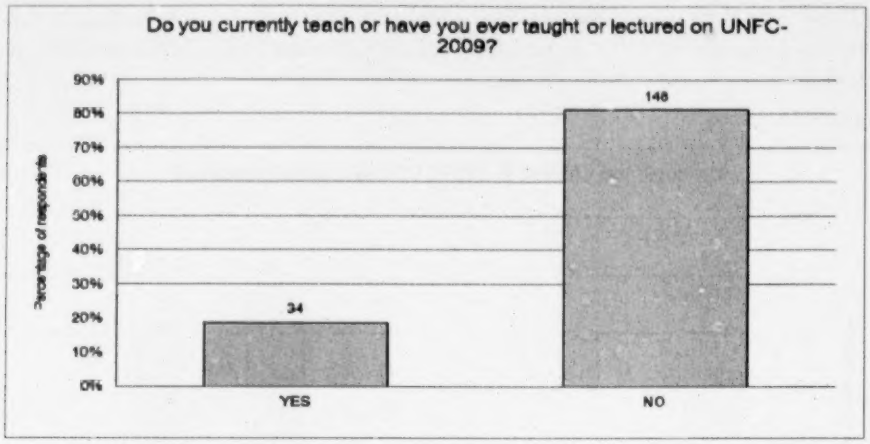
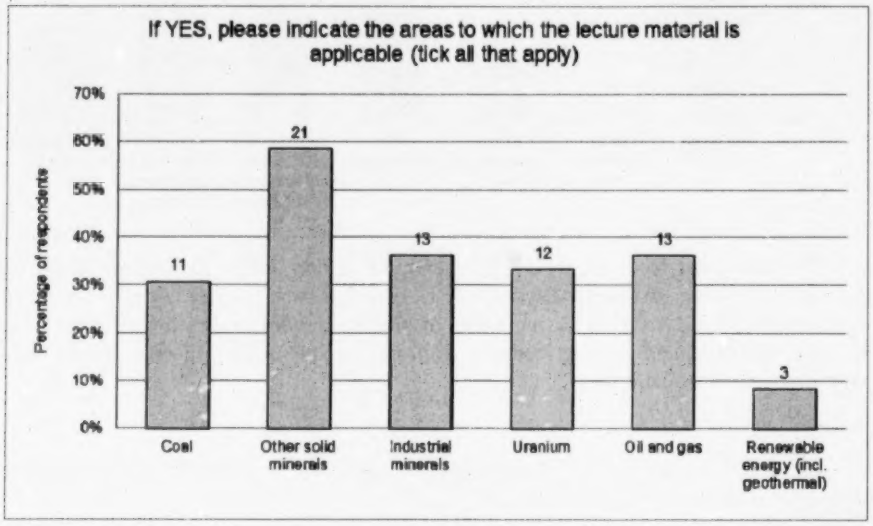



Figure 31




## G. Website

73. Just under 90 per cent of respondents have visited the UNFC pages on the UNECE website (see Figure 32).

74. The feedback provided by respondents on the quality of the UNFC web pages is provided in Figure 33. The percentage of respondents who rated the quality of the UNFC web pages as excellent or above average is as follows:

- Amount of information posted: 72 per cent
- Relevance of information posted 79 per cent
- Speed of access 68 per cent
- Design 69 per cent

- Ease of use 74 per cent.

Figure 32

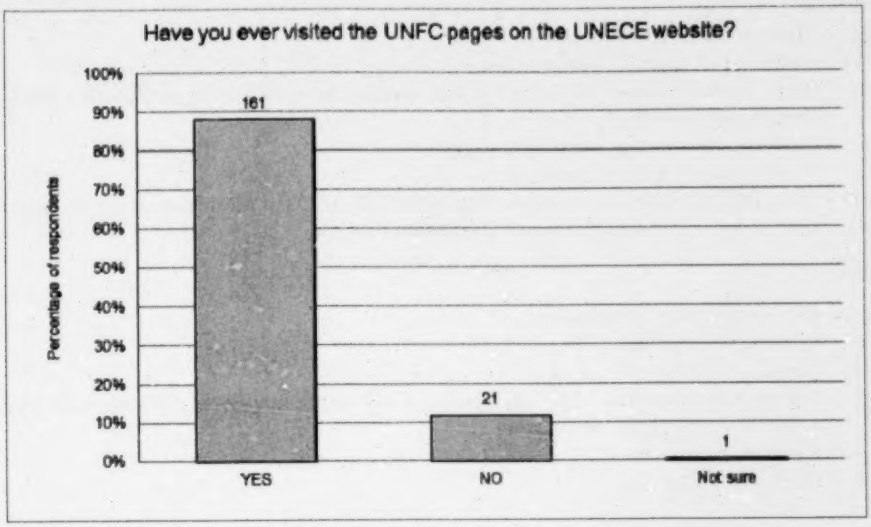
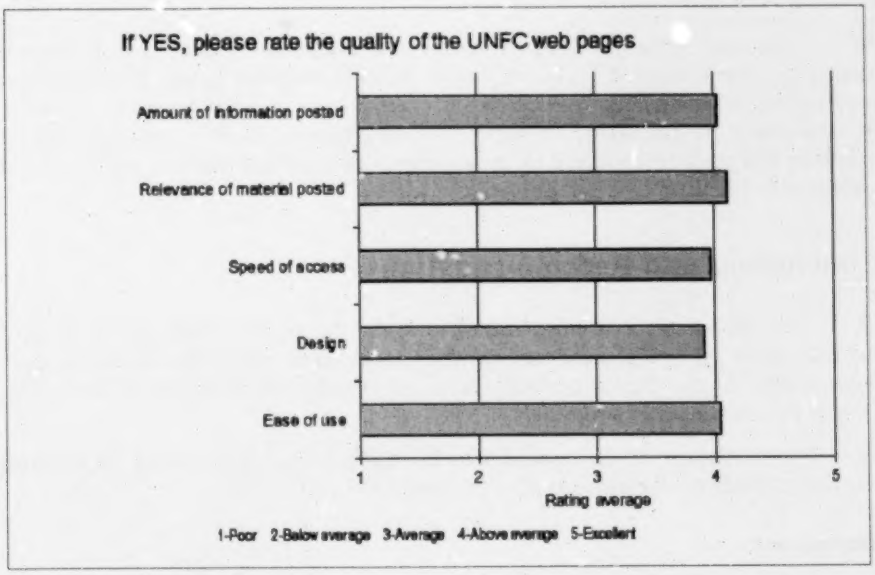



Figure 33




75. Respondents suggested the following improvements or changes to the UNFC web pages. The comments have been categorized into three areas: format, new areas, and other:

*Format*

(i) Inclusion of implementation ambitions and programmes for adoption.

(ii) I suggest a simpler layout, with less information in the homepage, to facilitate the reading. Having an effective search engine (like the one that already exists) compensates those that prefer to find all the information in the homepage.

(iii) Needs to be simpler.

(iv) Continue to re-evaluate structure based on user feedback.

(v) I think the UNFC must have a broader platform, perhaps as part of mainstream energy conference programmes to drive more interaction and visitors to the site.

*New areas*

(i) Links to membership profiles.
(ii) Case studies specially for newcomers.
(iii) More cases of using UNFC-2009 in detail should be posted to the website in order to allow a deeper understanding.
(iv) Put interactive tool in the UNFC pages.
(v) More about oil and gas industry.
(vi) More information concerning the link with CRIRSCO (of great interest for the mineral industry).
(vii) Link to more industrial websites for communication.

*Other*

(i) Maybe too much information.
(ii) Website not required.
(iii) Not aware of the web pages.
(iv) The problem is not the UNFC web pages, it is because internet in my country is very slow, and access is by satellite, not by cable.
(v) Keep up the standard.
(vi) Please keep it up.

### H. Additional information

76. When the Terms of Reference for the Self-evaluation were developed follow-up interviews were envisaged. However, due to the comprehensive nature of the responses provided to the survey, follow-up interviews were no longer deemed necessary. A total of 99 respondents – equivalent to 45 per cent of the total respondents – indicated that they would be willing to be contacted by the secretariat by telephone and/or e-mail to provide additional feedback.

## IV. Conclusions and Recommendations

77. The self-evaluation exercise helped to assess the overall efficiency, effectiveness and relevance of the programme and activities dedicated to support the development and dissemination of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009).

78. The evaluation of the responses to the survey revealed a number of important conclusions about the substance of the work related to UNFC-2009

#### (a) Respondents

79. The response rate of 22 per cent (total number of respondents was 219) indicates a good and encouraging level of engagement by the members of the Expert Group on Resource Classification and other interested stakeholders in the programme of work. Whilst the majority of the respondents were from Governments, only 36 per cent were from UNECE member States.

80. Conclusion: Engagement by UNECE member States needs to be improved.

81. ***Recommendation 1:*** *The secretariat, in cooperation with the Communications Task Force of the Expert Group, should develop and institute a targeted strategy to increase engagement by UNECE member States.*

**(b) Findings related to UNFC-2009**

82. A wide range of benefits of UNFC-2009 were highlighted by respondents with just under 50 per cent indicating that there are no disadvantages in applying UNFC. A number of comments were made by respondents on the relationship between UNFC-2009 and the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) Template and the Petroleum Resource Management System (PRMS) which highlighted a misunderstanding regarding the linkage between the systems.

83. Conclusion: There are still users of the CRIRSCO Template and PRMS who are not aware that the CRIRSCO Template and the PRMS provide the commodity-specific specifications for solid minerals and petroleum respectively for UNFC-2009. Bridging documents were developed in 2012 and 2013 to operationalize the CRIRSCO Template and the PRMS as the commodity-specific specifications underpinning UNFC-2009. The bridging documents include instructions and guidelines on how to classify estimates generated by those systems using the UNFC-2009 numerical codes. Together with generic specifications and bridging documents, the CRIRSCO Template and PRMS provide the technical foundation and keystones for the consistent application of UNFC-2009 for classifying solid mineral and petroleum reserves and resources.

84. ***Recommendation 2****: Increased outreach, with the support of CRIRSCO and the PRMS sponsoring organizations, should be undertaken to inform users and potential users of UNFC-2009 of the mutually beneficial relationship between UNFC-2009, the CRIRSCO Template and PRMS. Together with the generic specifications and bridging documents, the CRIRSCO Template and PRMS provide the technical foundation and keystones for the consistent application of UNFC-2009 for classifying solid mineral and petroleum reserves and resources.*

85. Conclusion: UNFC-2009 is found to be overly complex and this is a significant barrier to implementation.

*86.* ***Recommendation 3:*** *Educational and interactive tools need to be developed and circulated widely to demonstrate that (i) UNFC-2009 is not overly complex once users have familiarized themselves with the system, and (ii) the added flexibility and granularity provided by the three axes of UNFC offer great added value for resource classification and management. Additionally, a simplified case study should be prepared, in cooperation with the Technical Advisory Group and/or the Communications Sub-Committee, illustrating the process of estimating projects on each of three axes and how the information is stored and reviewed.*

**(c) Testing of UNFC-2009**

87. UNFC-2009 was finalized at the end of 2009 and became operational at the end of 2013. The survey highlighted that 54 countries, organizations or companies have undertaken a case study, pilot study or mapping exercise on UNFC-2009, which is extremely encouraging and demonstrates good interest in the system. The feedback that was provided on the testing will be of great value for the use and further development of the system. Testing has been undertaken in a wide range of countries, including: Argentina, Brazil, Bulgaria, Cameroon, Chile, China, Cuba, Greece, Hungary, India, Indonesia, Malaysia, Mozambique, Nepal, Nigeria, Norway, Serbia, Slovakia, South Africa, Sri Lanka, Thailand, Turkey, Uganda and United States. Testing and use of UNFC-2009 is critical now that it is in the roll-out phase.

88. Conclusion: The global education and outreach programme of the Expert Group is having a positive effect. The results also indicate that more testing of UNFC-2009 is being conducted in countries outside of the UNECE region.

*89.* ***Recommendation 4:*** *The education and outreach programme of the Expert Group on Resource Classification should be enhanced to ensure that the momentum currently achieved is maintained. Efforts should, in particular, be focused on UNECE countries and testing encouraged since the fewest number of case studies were undertaken in this region. The secretariat, in cooperation with the Communications Sub-Committee, should develop a centralized database of case studies undertaken, as well as lessons learnt.*

*90.* ***Recommendation 5:*** *The secretariat should collate and pass the feedback provided by respondents on the benefit derived in undertaking a case study, pilot study or mapping exercise to the Technical Advisory Group of the Expert Group in view that one of the functions of the Technical Advisory Group is to provide advice on application of UNFC-2009.*

**(d) UNECE as a venue to develop UNFC-2009**

91. Activities related to UNFC have been undertaken at UNECE for more than twenty years. Development of the UNFC of 1997, which applies to solid fuels and mineral commodities only, started at UNECE in 1992. In 2002, work commenced on broadening the application of UNFC to petroleum and uranium resulting in UNFC-2009. Resource classification is a lasting, dynamic issue, as demonstrated by the periodic modifications and updates experienced by commodity-specific resource classification schemes. In particular, the development of new technologies means that any resource classification system cannot remain static. All stakeholders using a classification system need the assurance that technical advice and improvements will be provided as necessary to adapt and refine the systems capabilities.

92. Conclusion: The majority of the respondents (just under 80 per cent) indicated that, in their view, UNECE is the right venue to maintain and develop UNFC in the future and just under half of the respondents indicated that any obstacles to continued development of UNFC at UNECE can be managed. Hence, it can be concluded that UNFC-2009 stakeholders are generally 'happy' to continue to work under the aegis of UNECE and that any obstacles that may arise are considered to be manageable. A number of comments were, however received offering other venues that could be considered, for example UN CSD and UNEP or another international organization (beyond Europe or developed countries).

*93.* ***Recommendation 6:*** *The Expert Group on Resource Classification should continue to review on a regular basis, at least every two years, whether UNECE continues to be the appropriate venue to maintain and further develop UNFC-2009.*

**(e) Expert Group on Resource Classification**

94. The tone of the overwhelming majority of the comments and feedback indicates a positive and constructive relationship between the secretariat and members of the Expert Group on Resource Classification.

95. Conclusion: The responses demonstrate a high degree of satisfaction with the level of services provided by the secretariat for this programme of work, in particular the organization of the meetings of the Expert Group and UNFC-related workshops, as well as the responsiveness to requests for information on UNFC and/or the Expert Group.

96. It is noted that the programme of work related to UNFC-2009 is currently undertaken by one UNECE programme officer. As the programme is growing, for example extension of UNFC-2009 to encompass renewable energy resources and injection projects, it is going to be increasingly challenging for the secretariat to maintain the same level and quality of service unless additional resources are allocated. Additionally, the global roll-out

of UNFC-2009 that has just started is generating requests for information from the secretariat and these are anticipated to increase with time.

*97.* ***Recommendation 7:*** *As a priority, the secretariat should work closely with the Expert Group on Resource Classification and its Bureau to seek to identify potential sources of extrabudgetary funding, to explore the potential for UNFC-2009 stakeholders to provide expert(s) on a secondment basis, and/or to approach member States directly with a view to identifying funds to support the recruitment of a Junior Professional Officer(s).*

*98.* ***Recommendation 8:*** *In order to ease the burden for the UNECE secretariat in implementing UNFC-2009, which is a global system, the secretariat should seek to work more closely with the United Nations Department of Economic and Social Affairs (UN DESA), and the other regional commissions to secure their assistance in disseminating information on UNFC-2009 and in the organization of regional and/or national workshops as appropriate.*

99. Meetings of the Expert Group on Resource Classification are currently held annually. The key reasons for attending Expert Group meetings are: to observe the discussions and outcomes of the meeting; to represent a Government, organization, professional society/association or company; and an interest in developing UNFC-2009. Lack of funding is the key reason for not participating in an Expert Group meeting. Those who are unable to attend should be able to submit written comments prior to the meetings.

100. Expert Group meetings are currently held over four days, with the first day being an optional workshop on the UNFC. This format and length is supported by the Expert Group. Whilst there is work to be done and issues to be discussed, Expert Group members are willing to commit time and other resources to participate in Expert Group meetings.

101. The Sustainable Energy Division increasingly communicates with experts by electronic means where possible e.g. webinars, videoconferences, teleconferences. Efforts should be made to conduct part of the discussions that take place during Expert Group meetings by other means e.g. webinar, electronic communications.

102. Conclusion: The responses demonstrated a high level of satisfaction with the frequency and quality – in terms of content, clarity and timeliness – of the communications provided by the UNECE secretariat relating to UNFC and/or the Expert Group on Resource Classification. The responses also demonstrated a high level of satisfaction with the quality of service/support provided by the secretariat in the organization of Expert Group meetings and UNFC-related workshops, as well as the responsiveness to requests for information on UNFC and/or the Expert Group.

*103.* ***Recommendation 9:*** *The secretariat should supplement annual meetings of the Expert Group with an increased number of communications, including electronic, throughout the year dependent upon the availability of relevant information and /or progress to share with the Expert Group.*

**(f) Education and Outreach**

104. Education and outreach is a significant component of the programme of work of the Expert Group, with training and/or educational workshops on UNFC being a key tool to deliver on this. Currently, three to four UNFC training workshops are held globally. The workshops need to be promoted more widely and where possible funding identified to support the travel of participants. Whilst there is interest within the membership of the Expert Group in organizing more national workshops, resources (both human and financial) will need to be identified.

105. Conclusion: The practice of organizing a UNFC workshop as part of the Expert Group meeting to enable newcomers to get up to speed on both UNFC and the key issues to

be addressed by the Expert Group should be continued. Case studies on application of UNFC to solid minerals and to petroleum should be included as standard practice in all future events.

*106.* ***Recommendation 10:*** *A series of case studies on application of UNFC-2009 to solid minerals and to petroleum should be identified and prepared in a standard format for inclusion at all future UNFC workshops.*

107. Conclusion: Lectures on UNFC are being delivered to Government organizations, universities, national conferences and workshops, and international conferences and events around the world. In many instances the secretariat is not aware of the lectures. It is concluded that a significant portion of the material being presented on UNFC must be self-generated.

108. ***Recommendation 11:*** A consistent message needs to be presented on UNFC worldwide. A series of standard presentations on UNFC-2009 varying in length and technical content for use with different audiences need to be developed as a matter of priority. Once approved by the Expert Group, these presentations should be circulated widely for use by all those who lecture and teach on UNFC.

### (g) Website

109. Almost 90 per cent of respondents have visited the UNFC pages on the UNECE website. The feedback provided by the respondents on the quality of the UNFC web pages was largely positive, but indicated that there is room for improvement by the secretariat.

110. Conclusion: Improvements are needed to the UNFC web pages. In particular, case studies on applying UNFC-2009 to solid minerals, petroleum and renewable energy need to be made readily available. Case studies are currently posted to the web pages but are "buried" in the presentation pages related to meetings of the Expert Group on Resource Classifications and workshops.

111. ***Recommendation 12:*** A new area on the UNFC web pages should be created dedicated to case studies to facilitate a better understanding of UNFC-2009 and how it can be applied to solid minerals, uranium, petroleum and renewable energy.

### (h) Additional Information

112. Just under half of the total number of respondents to the survey, advised of their willingness to be interviewed by the secretariat to provide additional information and feedback. Whilst the survey was conducted on the basis of anonymity, this result indicates a willingness by many respondents to waive that anonymity in order to provide feedback that could serve to improve the programme of work and activities related to UNFC-2009. This behaviour is in line with the transparent and very dedicated nature of the experts who are members of the Expert Group on Resource Classification.

*113.* ***Recommendation 13:*** *In order to benefit from the willingness and the time of the members of the Expert Group on Resource Classification to provide feedback that could lead to improvements in the relevance, efficiency and effectiveness of the programme and activities dedicated to support UNFC-2009, a similar survey should be repeated on a regular basis i.e. at least every year or two years and the results circulated to the Expert Group with proposed recommendations for follow-up action.*

# Annex I

## Terms of Reference

### Self-evaluation of the programme supporting the development of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009

**Sustainable Energy Division**

## I. Purpose

1. The purpose of this self-evaluation is to assess the efficiency, effectiveness and relevance of the programme and activities dedicated to support the development and dissemination of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009). The evaluation will further assess how this work contributes to the attainment of the objectives of the subprogramme on sustainable energy.

## II. Scope

2. The self-evaluation will focus on the development of UNFC-2009 from January 2002 to November 2013. As UNFC-2009 is a globally applicable framework classification for the purpose of this self-evaluation both ECE and non-ECE member States will be included. Relevant stakeholders including industry, international organizations and professional societies and associations will also be included.

## III. Background

3. UNFC-2009 provides a global communications tool applicable to all extractive activities, covering solid mineral and fossil energy resources, including oil, natural gas, coal and uranium. As the only global system that allows different classifications to be unified to a single representation of the entire mineral or hydrocarbon resource endowment, UNFC-2009 has a major impact on the ability to accurately understand the availability of all non-renewable resources and hence facilitate the development of appropriate long-term energy policies. Designed to be internationally applicable and internationally acceptable, UNFC-2009 brings harmonization to terminology and definitions by using a powerful numerical codification system which applies to all fossil energy and mineral reserves and resources. UNFC-2009 is a global system and can be applied by both ECE and non-ECE member States. Work is underway to broaden the scope of application of UNFC-2009 to encompass renewable energy resources, which would for the first time provide a common classification system for both renewable and non-renewable energy projects and hence improve the view of the value of renewable resources in comparison to conventional energy commodities. The system is also being evaluated as a basis for classification of injection projects, e.g. for storage of carbon dioxide.

4. UNFC-2009 has been developed to meet, to the extent possible, the needs of applications pertaining to (i) international energy and mineral studies; (ii) government

resource management functions; (iii) corporate business processes; and (iv) financial reporting standards.

5. ECE has been working on development of the Framework Classification for over twenty years. Work first began in 1992 and the first version was published in 1997 and entitled "United Nations International Framework Classification for Reserves/Resources – Solid Fuels and Minerals Commodities". This version applies only to coal and solid minerals. In 1997, the United Nations Economic and Social Council (ECOSOC) in its decision 1997/226 invited the Member States of the United Nations, international organizations and the regional commissions to consider taking appropriate measures for ensuring worldwide application of the Framework Classification.

6. In 2001, an Ad Hoc Group of Experts was formed with the intention of extending the applicability of the system to oil, natural gas and uranium. This resulted in the finalization of a version of the Framework Classification in 2004 entitled "United Nations Framework for Fossil Energy and Mineral Resources". In 2004, ECOSOC in its decision 2004/233 invited the Member States of the United Nations, international organizations and the regional commissions to consider taking appropriate measures for ensuring worldwide application of the Framework Classification. Subsequent revisions were then necessary to ensure alignment with the key minerals and petroleum classification systems. UNFC-2009 was agreed upon at the seventh session of the Ad Hoc Group of Experts and subsequently approved by the Committee on Sustainable Energy at its eighteenth session, 18-20 November 2009 (ECE/ENERGY/80, paragraph 21(g)). UNFC-2009 was issued as a publication in all the languages of the United Nations in 2010 (ECE ENERGY SERIES No. 39 and ECE/ENERGY/85).

7. In 2010, the Expert Group on Resource Classification was formed and at its first session in April 2010 started work on development of specifications. UNFC-2009 provides the high-level framework definitions to which specifications are needed; specifications set out the basic rules that are considered necessary to ensure an appropriate level of consistency and coherence in the application of the system. The specifications and accompanying documentation were finalized and agreed on by the Expert Group at its fourth session, 23–26 April 2013 and were subsequently approved by the Committee on Sustainable Energy at its twenty-second session, 21–22 November 2013.

## IV. Issues

8. Specifications are needed for UNFC-2009 to be operational. As the generic and solid mineral and petroleum commodity-specific specifications were only approved by the Committee on Sustainable Energy at its twenty-second session, the tangible impact of the system can neither be judged nor measured yet. The self-evaluation will seek to:

- determine the efficiency and effectiveness of the programme supporting the development, dissemination and training on UNFC-2009
- determine if member States support UNFC-2009 as a relevant and value-added area of work to be undertaken in relation to the objectives of the sustainable energy subprogramme following the Outcome of the review of the reform of ECE of 2005
- determine if member States support the work on UNFC-2009 being undertaken at ECE
- determine if ECE is the appropriate platform for this work vis-à-vis other organizations and agencies
- determine if the programme is complementary to ECE's efforts to coordinate with relevant international actors.

## V. Methodology

9. The methodology is as follows:

- Survey: a survey of all UNFC-2009 stakeholders and potential end-users will be conducted. A detailed questionnaire will be prepared and circulated to members of the Expert Group on Resource Classification and other relevant experts and stakeholders as may be identified during the desk review. The questionnaire will be reviewed by the Bureau of the Expert Group on Resource Classification prior to circulation.
- Interviews (these will include one on one interviews and group interviews): selected telephone/skype interviews will be conducted with a representative cross-section of UNFC-2009 stakeholders, including a number of ECE member States representative of the different ECE regions e.g. EU-28, North America, Central Asia, CIS.

## VI. Evaluation Schedule

| | | |
|---|---|---|
| 2013 | October–November | Desk review |
| | December | Data collection |
| | December | Data analysis and follow-up interviews |
| | | Draft report |
| 2014 | January | Submit draft report for review by Bureau of Expert Group on Resource Classification |
| | 27 January | Submit report |

## VII. Resources

10. Required resources will be three weeks of labour for one P-4 professional, one week of labour of one G-6 administrative staff, French and Russian translation services for an approximately six page document (English original) and long-distance telephone expenses for supplementary interviews.

## VIII. Intended use / Next steps

11. The self-evaluation will be critical for establishing whether there is member State and other stakeholder support for the work on development of UNFC-2009 and, if so, whether the work is seen to be an added value activity that delivers concrete results in line with the overall objectives of the sustainable energy programme.

12. In line with the goals of Expert Group on Resource Classification to operate in a transparent and inclusive manner, the self-evaluation will be submitted to the Expert Group on Resource Classification at its fifth session (29 April–2 May 2014) for review.

13. The Programme officer will use the results to refine the scope and direction of the work programme related to UNFC-2009 in line with the expectations of ECE member States and other UNFC-2009 stakeholders and potential end-users to, where possible and practicable, improve the support provided in line with feedback received.

# Annex II

## Survey Questions

**Question 1.**
Which of the following best describes your role/organization?
☐ Government
☐ International organization
☐ Professional society/association
☐ Industry
☐ Financial reporting sector
☐ Consultant/Independent expert
☐ Other (please specify)

**Question 2.**
If you checked Government, please indicate country name (optional)

**Question 3.**
Which sector does your organization work in? (tick all that apply)
☐ Coal
☐ Other solid minerals
☐ Industrial minerals
☐ Uranium
☐ Oil and gas
☐ Renewable energy (including geothermal)
☐ Other, please specify

**Question 4.**
If you checked renewables, please indicate which type (tick all that apply)
☐ Biofuels
☐ Geothermal
☐ Hydro
☐ Solar
☐ Wind
☐ Other (please specify)

**Question 5.**
How many years have you been involved with the UNFC and/or Expert Group on Resource Classification (or one of its predecessors)?
☐ One year
☐ Two to three years
☐ Four or more years
☐ Not applicable

**Question 6.**
In what capacity have you been involved with the Expert Group? (tick all that apply)
☐ Member of Expert Group on Resource Classification (EGRC) (or one of its predecessors)
☐ Bureau Member
☐ Member of an Expert Group Task Force or Sub-Committee
☐ Not applicable
☐ Other (please explain)

**Question 7.**
In your view, what are the benefits of UNFC2009? (tick all that apply)
☐ Global communications tool
☐ Mapping tool
☐ National resource management

☐ Business processes/portfolio management
☐ Financial reporting
☐ International energy and mineral studies
☐ Other (please specify)

**Question 8.**
In your view, are there any disadvantages that you can foresee in applying UNFC2009?
☐ YES
☐ NO
☐ Don't know / Not sure
If, YES, please comment

**Question 9.**
Is your country or organization considering implementing UNFC2009?
☐ YES
☐ NO
☐ Don't Know / Not sure
If YES, please indicate name of country or organization (optional)

**Question 10.**
Has your country, organization or company undertaken a case study, pilot study or mapping exercise on UNFC?
☐ YES
☐ NO
☐ Don't Know
If YES, please provide details, including any value derived:

**Question 11.**
In your view, is the UNECE the right venue to maintain and develop UNFC in the future?
☐ YES
☐ NO
☐ Don't know / not sure
If NO, please list alternative venue(s):

**Question 12.**
In your view, are there any obstacles to continued development of UNFC at UNECE? (tick all that apply)
☐ Development process too slow
☐ Too many stakeholders involved
☐ Lack of funding
☐ UNFC should not be managed by an intergovernmental body
☐ A global project should not be managed by a UN regional commission
☐ No obstacles
☐ Obstacles are manageable
☐ Other, please provide details:

**Question 13.**
Have you ever attended a meeting of the Expert Group on Resource Classification (or its predecessors)?
☐ YES
☐ NO

**Question 14.**
If YES, how many?
☐ One
☐ Two
☐ Three
☐ Four
☐ Five to ten
☐ More than ten

**Question 15.**
If NO, please indicate reasons for not attending (tick all that apply)
☐ No funds to support participation
☐ Government/company/organization sees limited or no value in participation
☐ Senior management will not support participation
☐ No interest in attending an EGRC meeting
☐ No time
☐ Scheduling conflict
☐ Other (please specify)

**Question 16.**
If you attend Expert Group meetings, what are your key reasons for attending? (tick all that apply)
☐ Interest in developing UNFC2009
☐ Interest in promoting UNFC2009
☐ To observe the discussions and outcomes of the meeting
☐ To represent a Government, organization, professional society/association or company
☐ Educational
☐ Networking
☐ Not applicable
☐ Other (please specify)

**Question 17.**
Please provide feedback on Expert Group on Resource Classification meetings

| | *Strongly agree* | *Agree* | *Neither agree, nor disagree* | *Disagree* | *Strongly disagree* | *N/A* |
|---|---|---|---|---|---|---|
| Items on the agenda are relevant | o | o | o | o | o | o |
| Presentations are relevant | o | o | o | o | o | o |
| Discussions are relevant | o | o | o | o | o | o |
| Time allocated to presentations is sufficient | o | o | o | o | o | o |
| Time allocated to discussions is sufficient | o | o | o | o | o | o |
| Agenda and other meeting documentation are adequate | o | o | o | o | o | o |
| Meeting room is adequate Information provided by secretariat in advance of the meeting is adequate | o | o | o | o | o | o |
| Meeting information and documentation posted to the UNFC web pages is adequate | o | o | o | o | o | o |
| Please provide additional feedback on how Expert Group meetings could be improved | o | o | o | o | o | o |

**Question 18.**
Expert Group meetings are currently held over four days, with the first day being an optional workshop on the UNFC. Please indicate your preference for the duration of future Expert Group meetings.
☐ One day
☐ Two days
☐ Three days
☐ Four days
☐ As long as is needed to cover the agenda items
☐ Other (please specify)

**Question 19.**
In your view, could part of the discussions that take place during Expert Group meetings be conducted MORE EFFECTIVELY by other means e.g. webinar, electronic communications?
☐ YES
☐ NO
☐ Don't know / not sure
☐ Additional Comments

**Question 20.**
Please provide feedback on how the Expert Group should work in the future (tick all that apply)

| | *Strongly agree* | *Agree* | *Neither agree, nor disagree* | *Disagree* | *Strongly disagree* | *N/A* |
|---|---|---|---|---|---|---|
| Expert Group annual meeting in Geneva is appropriate (with length of meeting linked to number of issues needing to be addressed) | o | o | o | o | o | o |
| I would prefer a shorter Expert Group annual meeting (two days or less) and more 'electronic' meetings during the | o | o | o | o | o | o |
| Group to meet once every two years with 'electronic' meetings in between | o | o | o | o | o | o |
| Please provide additional comments | | | | | | |

**Question 21.**
Please rate the quality of communications provided by the UNECE secretariat relating to UNFC and/or the Expert Group on Resource Classification

| | *Excellent* | *Above average* | *Average* | *Below average* | *Poor* | *N/A* |
|---|---|---|---|---|---|---|
| Content of message | o | o | o | o | o | o |
| Clarity of message | o | o | o | o | o | o |
| Timeliness of message | o | o | o | o | o | O |
| Please provide any additional feedback | | | | | | |

**Question 22.**
Please provide feedback on the frequency of communications from the UNECE secretariat related to UNFC and/or the Expert Group on Resource Classification

| | *Fully agree* | *Agree* | *Neither agree, nor disagree* | *Disagree* | *Fully disagree* | *N/A* |
|---|---|---|---|---|---|---|
| Appropriate number of messages | o | o | o | o | o | o |
| Please provide any additional feedback | | | | | | |

**Question 23.**
Please rate the quality of service/support provided by the UNECE secretariat in relation to UNFC and/or the Expert Group on Resource Classification

| | *Excellent* | *Above average* | *Average* | *Below average* | *Poor* | *N/A* |
|---|---|---|---|---|---|---|
| Organization of Expert Group meetings | o | o | o | o | o | o |
| Organization of UNFC related workshops | o | o | o | o | o | o |
| Responsiveness to requests for information on UNFC and/or the Expert Group | o | o | o | o | o | o |
| Please provide any additional comments | | | | | | |

**Question 24.**
Have you ever attended a UNFC2009 training workshop?
☐ YES
☐ NO

**Question25.**
If YES, how many events have you attended?
☐ One
☐ Two
☐ Three to five
☐ Five or more

**Question 26.**
If YES, in what capacity have you attended?
☐ Participant
☐ Speaker
☐ Both

**Question 27.**
If NO, please indicate the reasons for never having attended a UNFC Workshop (tick all that apply)
☐ Not aware of the workshops
☐ Not invited
☐ Lack of funds to travel
☐ No interest
☐ Not relevant to my work
☐ Timing of workshops not convenient
☐ Too busy
☐ I am fully informed on UNFC and the EGRC
☐ Other (please specify)

**Question 28.**
If you represent a country, would your country be interested in organizing a national workshop?
☐ YES
☐ NO
☐ Don't know / not sure

**Question 29.**
A UNFC workshop is now organized as part of the Expert Group meeting and normally held on the first day to enable newcomers to get up to speed on UNFC and the key issues to be addressed by the Group. Do you find this timing useful?
☐ YES
☐ NO
☐ Don't know / not sure

**Question 30.**
How could the content of UNFC Workshops be improved? (tick all that apply)
☐ Increased discussion time
☐ Less discussion time
☐ Fewer presentations
☐ More presentations
☐ Inclusion of a case study on application to solid minerals
☐ Inclusion of a case study on application to petroleum
☐ Other (please specify)

**Question 31.**
Do you currently teach or have you ever taught or lectured on UNFC-2009?
☐ YES
☐ NO

**Question 32.**
If YES, please provide details of the lectures provided (optional)
☐ Country
☐ Location (university, etc)
☐ Frequency
☐ What material do you use?
☐ Additional comments

**Question 33.**
If YES, please indicate the areas to which the lecture material is applicable (tick all that apply)
☐ Coal
☐ Other solid minerals
☐ Industrial minerals
☐ Uranium
☐ Oil and gas
☐ Renewable energy (incl. geothermal)
☐ Other (please specify)

**Question 34.**
Have you ever visited the UNFC pages on the UNECE website?
☐ YES
☐ NO
☐ Not sure

**Question 35.**
If YES, please rate the quality of the UNFC web pages

| | *Excellent* | *Above average* | *Average* | *Below average* | *Poor* | *N/A* |
|---|---|---|---|---|---|---|
| Ease of use | o | o | o | o | o | o |
| Design | o | o | o | o | o | o |
| Speed of access | o | o | o | o | o | o |
| Amount of information posted | | | | | | |

**Question 36.**
What improvements or changes to the UNFC web pages would you suggest?

**Question 37.**
Would you be willing to be contacted by telephone or email to explore your comments in more detail?
☐ YES
☐ NO
☐ I will contact the UNECE secretariat so that my answers remain confidential

**Question 38.**
If YES, please provide your name, email and telephone number
☐ LAST NAME:
☐ FIRST NAME:
☐ Country:
☐ Email:
☐ Telephone (including country code).

# Annex III

## Categories of stakeholders who responded to the survey

There were a total of 221 respondents. The categories of stakeholders represented by the respondents are provided below. Due to responses being anonymous it is not possible to provide more detailed information on the categories.

| Category | Number of Respondents | Percentage |
|---|---|---|
| Government | 88 | 41.7 |
| *- ECE member State*[1] | *30* | *36* |
| *- Non-ECE member State*[1] | *52* | *64* |
| International organization | 15 | 7.1 |
| Professional society/association | 14 | 6.6 |
| Industry | 45 | 21 |
| Financial reporting sector | 3 | 1.4 |
| Consultant/Independent expert | 28 | 13.3 |
| Other[2] | 18 | 8.5 |

[1] Eight respondents did not advise which country they represented.

[2] "Other" comprised academia (50 per cent) and institute or geological survey (50 per cent).

# Annex IV

## Detailed comments by question

### A. Disadvantages foreseen by respondents in applying UNFC-2009

1. Respondents were offered an opportunity to provide additional comments on any disadvantages they foresaw in applying UNFC-2009. The comments received are provided below:

(i) UNFC-2009 does not match with UNFC of 1997. In the 1997 version, single/individual can be divided into economically mineable, potentially economic (at present non-mineable), intrinsic economically (subsequent to completion of exploration: geological study stage). It can be applied to different deposits/projects with a single code only.

(ii) Ultra complicated and unlikely to be implemented.

(iii) Although useful in providing consistency between different types of resources; when applied and used solely in any one specific type - it adds potential to be too complex.

(iv) The lack of distinction between projects to improve recovery from on-going projects and new developments.

(v) If a particular mineral (strategic) sector is under the control of Government and it does not want to disclose the details corresponding to one or more of the axes for strategic reasons, UNFC may not be acceptable for a particular mineral or minerals to that country. Moreover in such cases where the Government is involved in complete cycle, economics of deposit is assessed with final outcome.

(vi) UNFC has not enough granularity for doing resource management on maturation of improved recovery projects.

(vii) Needs to be clear on how it relates to JORC (2012) etc.

(viii) Coding is good in term of universal language but it is easy to forget or have loss in meaning. Even though the coding system of UNFC2009 was established, some resources (projects) still cannot be coded accurately.

(ix) (a) The reserves/resources codification is not representative enough because of the low thrust power of classification criteria used, which belong to the class of qualitative scales - ordinary scale; (b) The coding sequence (EFG) has a disturbance formal logic that does not correspond to the logistic of information obtaining in the time. The degree of Geological Assessment - (G) precede the rest two ones, the Degree of Reserve/Resource Feasibility Assessment - (F), and the Economic Viability of Reserve/Resource Development - (E), but in the coding sequence was put in third place; (c) The categories proposed by the UNFC (RRC) still have offsets as this ones in previous exists classifications, e.g. no strong requirements to the reliability rating and precision as for example in the A. E. Annels' classification [1996]; (d) The reserves/resources categories process identification using UNFC's classification become more complicate and ambiguity for any particular deposit or part of it mainly because of the number of categories enlarged up to ten, and unconstrained classification's criteria applied.

(x) Not too widely applied, I guess, comparisons difficult.

(xi) The system introduces too much fineness into its classification which is unwarranted given the uncertainty of the estimates being reported.

(xii) Applying directly as done in India is not successful. Use the PRMS or CRIRSCO and then map to UNFC. Reporting guidelines in some countries require alignment with the PRMS. It will therefore be resource (time and personnel) consuming running two classification systems at the same time.

(xiii) Need for training in the application of UNFC may also expose organizations to more costs before the system can be adopted.

(xiv) Some organizations may also be reluctant to change from existing to the new classification system.

(xv) In my opinion the disadvantages of using UNFC-2009 will be relevant only when applied to mineral reserves, since the UNFC-2009 does not require certification of competence (i.e. Competent Person who takes personal responsibility for estimates). Having that exception in mind, UNFC-2009 has the big advantage of providing an umbrella for general classification, consistent with comparable public reporting (CRIRSCO), including also resources undiscovered or uneconomic. That is why UNFC-2009 is, in my opinion, very useful for the definition of public (governmental) policies (e.g. mineral, land use, taxes).

(xvi) Concerned that final resource definitions will not represent free market conditions and may become politicized.

(xvii) UNFC-2009 is not clear for renewable energy resources.

(xviii) No requirement for competent person.

(xix) Too subjective due to the excessive number of possible classifications (+30).

(xx) Not readily acceptable by industry due to number of classifications possible.

(xxi) Hope that to get in touch with countries like mine for more projects, especially that concern uranium exploration and solar energy.

(xxii) With energy UNFC does not operate with a technology contribution to the forecasted reserves.

(xxiii) A little bit more complicated compared to JORC and NI standards.

(xxiv) Western oil and gas industry resistance to change

(xxv) In Sweden, Finland and Norway the FRB standard is used.

(xxvi) As with any cross-border reporting, continuously, we need to educate and update the professionals to ensure that all have the same interpretation of the UNFC-2009 system.

(xxvii) The "E" category is very complex and not clear/obvious who will indicate the economic characters of the activity regarding the mining if the classification, registration is the responsibility of a mining authority. There is an idea that regarding the "E" category the entrepreneurs should give a declaration. "F" and "G" can be detected/transformed more easily from a recent datasets of an inventory which is much more compatible with the CRIRSCO Template. CRIRSCO/PERC should also be uses in the harmonization but to reclassify resources into reserves modification factors can be barriers for a mining authority because only the mining contractor is able to declare that factors. This case the authority should accept it and based on the information register reserves. We are working on the harmonization of coals, ores, non-metallic, hydrocarbons (SPE PRMS) and we are interested in the results of the

UNECE EGRC on geothermal and $CO_2$ storage. In order to implement the specifications of UNFC-2009 and PERC a joint document including uniform terms for all mineral resources should be developed which could be used for the modification of legal documents, this way the regulations. Our work is also in progress at the national level.

(xxviii) Developing countries and unexplored areas may be overseen by investors.

(xxix) In my view the system is very good but it needs an element of simplicity in order to be understandable and usable even from the non-experts.

(xxx) There should be just one reporting system in the world in the future.

(xxxi) I do not see any disadvantages when it is fully developed, but it is still in the early stages of application – equivalent to a software beta test version. In the long run, I think that there are tremendous advantages.

(xxxii) Established commercial reporting systems.

(xxxiii) It is difficult to apply UNFC-2009 because it is not obligatory for EU Member States and other countries/companies. When the system is applied only in couple of countries it is difficult to speak about its global role.

(xxxiv) In the oil and gas industry, it is difficult to give a coding system until unless the receiving end is known to code system.

(xxxv) Complex classification which can be difficult to apply to mineral industry (less exploration work, so lower geological knowledge of the deposit than in the oil and gas industry for example) however we have to discuss evaluation of two dimensional deposits such as seafloor manganese nodules, cobalt rich Fe-Mn crusts etc.

(xxxvi) In countries that already have a mineral resource reporting system will not change their system, however mapping systems to the UNFC is useful to assist in comparing resources between countries. The big challenge is encouraging countries to report (or map resources) to UNFC and ideally report in a single location so the information can be used to communication resources. A central location may assist in getting more countries as they will see other countries reports.

(xxxvii) In the developing countries, E-axis, that is the axis for social, environment and other factors, cannot be followed.

(xxxviii) Overly complex for many potential end users to grasp: (i) It is not compulsory; (ii) it is fighting against PRMS, which is winning.

(xxxix) The rapid expansion of the resource plays (unconventional or continuous plays) will need to be further developed under UNFC although I know they have been working on this as well. The financial impact and valuation of these resource plays are increasingly important and could be further refined with the UNFC as these plays increase globally. They now dominate United States production and have completely altered the energy outlook for the United States, and in turn this has a significant effect globally on energy export/import scenarios.

(xl) Application into public companies reporting standards.

(xli) Having general guidelines that are applicable to all current efforts for specific countries that are fundamental similar but in practice have differences.

(xlii) Attempts to apply it directly in financial reporting of solid minerals could result in (a) confusion among professionals and investors who are accustomed to using CRIRSCO-aligned standards, and (b) a risk of lowering the quality of

reporting because it does not specify competency and disclosure requirements. Because there is now a defined mapping with CRIRSCO, the CRIRSCO standards should be used for financial purposes, including IASB/ IFRS, with full confidence that data can be mapped to UNFC-2009 as and when required.

(xliii) Risk of confusion in mapping/switching from SPE classification.

(xliv) Disincentive to use as it appears complex; lack of motivation to change as current systems work fine; cost of changing and implementing (training, changing internal systems and processes); lack of key regulators requiring its use.

(xlv) Incompatible with the classification adopted by the World Energy Council.

(xlvi) UNFC-2009 is cumbersome and overly elaborate. Its usefulness is thus diminished.

(xlvii) Too granular, potential steep learning curve, misinterpretation and therefore improper categorization.

## B. Benefit derived in undertaking a case study, pilot study or mapping exercise

2. Respondents were offered an opportunity to provide comments on the benefit derived in undertaking a case study, pilot study or mapping exercise. The comments are provided in full below:

(i) Exercises for case studies can be taken up on national level, by converting deposit wise inventory level, on the basis of mapping of data of 1997 version to vet single code for deposit /leasehold/freehold like 1111,112, 133 etc on basis of vetting each axis with present status of mine in E, F, and G.

(ii) Pilot testing, mapping our resource account to the UNFC.

(iii) Report on methane emissions from exploration drilling for UNFC in October 2011.

(iv) A preliminary study has been done for some uranium deposits pertaining to F and G axes. Numerical coding for E axis has not been done, but can be attended differently.

(v) In our organization, exploration programmes on identification of Uranium and Thorium mineralization is being carried out using GSMB own funds with the expert knowledge of IAEA. Final results of these surveys will be according to the UNFC-2009 classification.

(vi) Norway, by the Norwegian Petroleum Directorate and Statoil in 2012.

(vii) Only preliminary work has been completed on one of the fields (oil).

(viii) The European Federation of Geologists, as a parent organization of the Pan-European Reserves & Resources Reporting Committee (PERC), followed the work recently made (in 2013) by Stephen Henley, related with the integration of CRIRSCO and UNFC-2009 standards. It is still in the early stage in applying the UNFC to selected minerals, e.g., rem, base metal, etc. However most of the work is focused on G-axis and we are trying to coordinate relevant offices and stakeholders to participate in order to complete the E and F axes.

(ix) Investigation of coal resources in the state of Sarawak. Estimated reserves 1.5 million tonnes.

(x) Academic paper which describes the difficulty of comparing classification

schemes. Energy Policy in Press.

(xi) Several case studies conducted and presented for the EGRC. Some shortfalls with existing classification system identified through the mapping project that lead to modification of existing system.

(xii) Decision that the template is not simple due to the number of classifications and it is not accepted readily by industry.

(xiii) Mapping exercise of UNFC and Russian solid mineral classification and UNFC and Russian oil and gas classification. The exercise showed that the classification can be mapped.

(xiv) Managing Non-Securities Exchange reported Resources and "possible" Reserves as well as marginally economic coal deposits. More specific reproducible criteria can then be applied in the conversion from one category to another category.

(xv) Only insofar as discussing with Sigurd Heiberg how the classification can be used to describe e.g. abandoned facilities / former mines, mining wastes and potentially other secondary resources in the economy. This is a useful exercise which builds confidence in the ability to adapt the framework for general needs.

(xvi) Used UNFC for trial mapping of renewable resources.

(xvii) Three deposits successfully classified using UNFC.

(xviii) I know that NPD, Stavanger, Norway, has looked into the UNFC, but I do not know the outcome.

(xix) In the previous answers the Hungarian Project Team was mentioned. Lead by the Geological and Geological Institute of Hungary and the Hungarian Office for Mining and Geology in co-operation with the Hungarian Geological Society at least a two years project has started in 2013 for the with the above mentioned purposes. We translated on Hungarian the UNFC-2009 (sending the final version is under licencing), the CRIRSCO, PERC, JORC, SPE_PRMS, Austral-Canadian system for geothermal energy, CSLF, CO2CRC and SPE-PRMS for CO2 storage. We organized six working groups (hydrocarbons, geothermal, ores, non-metallic, CO2 storage, coal) and mapped the Hungarian classification system, the National Inventory of Mineral Resources. These ones were described, excellences and gaps analysed, discussed several times on Forums, working meetings. A harmonized glossary was prepared, algorithms for transformations for coal, ores, non-metallic and hydrocarbons were done, the economic and information issues were considered. New templates for data serving forms were planned and prepared. Based on discussions and written suggestions the harmonization process was established and we continue our work in 2014. We have some publication recently only on national languages and we are ready to share our experiences with stakeholders on the next UNECE/EGRC Meeting in Geneva.

(xx) Just started implementation last year after Santiago, Chile workshop.

(xxi) Our organization has conducted uranium exploration field work in three sites in Nepal.

(xxii) India has already implemented the 1997 version of UNFC for classification of its solid mineral resources excluding coal as per UNFC. India intends to take up pilot study and mappings exercise on UNFC-2009.

(xxiii) Uranium and thorium resources mapping exercise. National reporting study showed how UNFC provides useful granularity.

(xxiv) Uranium Resources have been bridged between NEA-IAEA classification and UNFC-2009.

(xxv) Mapping Uranium Resources/ Projects. Main references: Lopez L., 2013. Uranium Resources in the UNFC-2009. Study cases in Argentina. Interregional Atomic Energy Agency (IAEA) – Ibero-American Programme for Science, Technology and Development (CYTED) – United Nations Economic Commission for Europe (UNECE) Workshop on United Nations Framework Classification 2009: Applications in Uranium and Thorium. Santiago (Chile), 9 - 12 June 2013.
Lopez L., 2012. Thorium and Uranium Resources Perspectives for the Nuclear Power Generation in Argentina. IAEA - CYTED - UNECE International Workshop on Recent Developments in Evaluation of Uranium and Thorium Resources. Lisbon (Portugal), 15 - 18 October 2012.

(xxvi) Some exploring projects from Romania and Africa, have been taken (by my company) to explore and evaluate resources/reserves as well to promote feasibility studies.

(xxvii) Case Study was undertaken on the first version of UNFC (1997). Practical Application of the United Nations Framework Classification for Reserves/Resources: Application of the United Nations Framework Classification to Turkish Lignite Deposits Case Study: Vatagan-Eskihisar Mining Area, Turkey.

(xxviii) The resource estimation and reporting were purely based on PRMS. However a great deal of effort has been made to map this classification to UNFC. Now the country can report harmonized resource figures without any misinterpretation. The related institutions that rely on these numbers are now starting to use harmonized reporting.

(xxix) Mapping the national resources system to UNFC and have undertaken to map uranium resources to UNFC.

(xxx) At the U.S. Geological Survey (USGS), this effort was undertaken. I am no longer with the USGS but I know efforts were also underway with the American Association of Petroleum Geologist (Committee on Energy Resources).

(xxxi) Presented twice at the Expert Group by NPD and Statoil. The conclusion is that the UNFC with subdivisions and specifications is an improvement over the two similar current classifications in use (SPE PRMS and NPD).

(xxxii) Preliminary study of application of UNFC mainly for coal.

(xxxiii) IAEA Expert Group on U and Th.

(xxxiv) State Commission of Ukraine on Mineral Reserves has been applying UNFC1997 for quite some time and now we are in the process of moving forward to UNFC-2009.

(xxxv) Pilot study commissioned by UNECE on mapping of CRIRSCO data on solid minerals to UNFC-2009.

(xxxvi) Broad screening has been done to identify a natural gas field where the UNFC-2009 can be applied and then compared with the current reserves reporting standards in order to compare and contrast the results.

(xxxvii) Case studies of a few uranium deposits of India were presented in national conferences and also at the 50th Uranium Group meeting in Paris organised by IAEA/OECD in November 2013. Widely appreciated. More works have now been completed.

## C. Additional obstacles to continued development of UNFC at UNECE

3. Respondents were offered an opportunity to provide comments on any additional obstacles to the continued development of UNFC at UNECE. The comments are provided in full below:

(i) Frequent changes in version of UNFC 1997, 2000, 2005, finally to 2009 are not manageable at gross root level data due to various constraints particularly for small to medium sized, artisanal undeveloped mining sectors in developing countries operated by small, private operators.

(ii) Implementation and widespread use of UNFC necessary for further development.

(iii) Some countries may like to withhold some of the information related to strategic mineral resources. In such cases information may not be available for one or more axis.

(iv) Acceptance by officials.

(v) Lack of pressure from organizations to implement.

(vi) Seems to be creating issues to be addressed rather than responding to issues which clearly require addressing.

(vii) UNECE should take an active role on promoting the use of UNFC especially in the developing countries, including support for experts who can lead and follow up the progress of work in all interested countries. Priority should be given to developing countries in capacity building on the application of the UNFC.

(viii) The main obstacle seems to be persuading organisations to use the system. I hope this can be overcome in time with continued communication.

(ix) IASB would probably be the correct body and develop an IFRS on mineral resources and reserves as proposed in 2010.

(x) Some capacity building required and dedicated unit needed to focus on resource classification and communications.

(xi) Problems of implementation.

(xii) I could say that the development process is too slow, but this is a complex matter, with many participants and do not see how it could be accelerated without more dedicated personnel - which depends on funding.

(xiii) Too many stakeholders with different objectives, leading to confusion about application of UNFC in comparison with other classifications such as CRIRSCO.

(xiv) Perhaps: about how to evolve other regional commissions and - get their approvals without delays; the classification method is not spread (at least not at educational level).

(xv) The countries that are outside the United Nations may be reluctant to contribute to the development of the UNFC. Therefore there is a need to take an aggressive approach to bring these members on board detailing the benefits of the classification. Perhaps a slot of such countries or organizations could be provided for in the structures. More publicizing of the UNFC to even the states/countries that use independent classifications needs to be done. The advantage of the UNFC is that it allows mapping of other systems to it. So the global oil and gas industry plus mineral sectors need to be educated on this.

(xvi) Currently seeking to understand all that is required.

(xvii) Lack of training programme. This is still not taught in geology and mining courses.

(xviii) The development process is slow, however I understand the reasons - it is a process which has to happen. Yes there are lots of stakeholders; however it is of value to have them engaged. Personally, continued engagement in UNFC may be reduced to input remotely, as Government funding to attend meeting is getting tight.

(xix) I am not sure because I am not so familiar the workings at UNECE.

(xx) I have not good contact with it or any good idea about what is going inside because there is no continuous contact.

(xxi) The multilateral process is thorough but slow. It is warranted to take the time necessary to conduct a thorough process. The rhythm of work at the UNECE with annual meetings of both the EGRC and the Committee on Sustainable Energy does however add time without necessarily adding substance too the process. An alternative process is needed where certain decisions can be taken be taken once the information to do so is complete without having to wait first for an annual EGRC meeting and then for an annual Committee meeting.

(xxii) Many precedents for this type of work that must be considered.

(xxiii) Lack of clear objectives on why it is needed, what function it serves and how it delivers value.

(xxiv) Resistance to adopt a changeover in Government set-up.

## D. Reasons for attending Expert Group on Resource Classification meetings

4. Respondents were offered an opportunity to provide additional comments on reasons for attending meetings of the Expert Group meetings. These comments are provided below:

(i) Due diverse contradictions between earlier version of UNFC and the 2009 version.

(ii) Alternate to one of the EGRC Bureau members.

(iii) To follow the other governments work with classification of resources on national level especially on the oil and gas side (SPE-PRMS).

(iv) It is an organic part of my work when we are working on the harmonization of the national mineral resources management.

(v) Excellent opportunity for networking and learning about what others are actually doing in the different countries.

(vi) Interest in understanding UNFC-2009.

(vii) To contribute to an improved basis for international energy and mineral studies, government resource management, industry business process management and allocation of financial resources.

(viii) Contribute in sharing Indian uranium industry experience.

## E. Improving Expert Group on Resource Classification meetings

5. Respondents were offered an opportunity to provide additional comments as to how Expert Group on Resource Classification meetings could be improved. These comments are provided below:

(i) One session of the meeting may be dedicated to resolve the technical snags in implementation of UNFC by various countries.

(ii) UNFC financing participation of independent specialists with interest in Resource Classification meetings.

(iii) Those financially unable to attend should send written comments to meetings.

(iv) During the workshop held in Santiago Chile from 2013.07.09 to 2013.07.12 it was noted that different countries have achieved different progress in exploration and mining of radioactive minerals. The expert group meetings can be focused on this situation and prepare acceptable programs which can be implemented with the assistance of IAEA.

(v) Going forward the process of making progress could be less focused through physical meetings, but rather through more use of online platforms and capabilities. Physical meetings are challenging for diaries and oblige participants to travel. They are important, but could be shorter and less frequent, whilst still a core part of the process.

(vi) Some presentations have limited content, repetition of what was already presented a year before.

(vii) During the discussions the experts will not repeat the concepts previously presented by other experts.

(viii) More focused comments - although I recognize it is important to have all participants' comments.

(ix) One possible issue: meetings often address several energies - which may be a "loss of time" for some industry participants.

(x) Providing more time in the agenda for discussions on presentation made by participants.

(xi) Providing more time for discussions on presentation made by invited experts.

(xii) Arranging visits of participants to uranium or uranium related mining companies.

(xiii) Two key challenges are (a) many participants with diverse perspectives which make it hard to achieve a common understanding and consensus, (b) complex administrative processes which are hard to understand and can potentially impede progress. Both these challenges were well managed at the meeting I attended in 2013 and good progress was made.

(xiv) Regional meetings and sponsorships.

(xv) I enjoyed the collegiality of the meetings. The networking is valuable to the cooperative move toward a single worldwide standard of reporting.

(xvi) The process must continue.

(xvii) Since I am involved in the reserve estimation of oil and gas fields and if you want to implement it in oil and gas industries, the expert group has to take care

of UNFC with respect to the oil and gas industries. The presentation is made simply more with mineral industries.

(xviii) Expert Group meeting cannot be just on one subject (e.g. coal). They have to be open discussions about anything.

(xix) Mineral-specific separate discussions may help in improving the networking and recognising the experts.

(xx) It would be useful to provide the UNFC system on other websites such as AAPG, EAGE, etc.

(xxi) All is good for me.

(xxii) Good support from the secretariat.

(xxiii) Meetings are extremely well organised. Cannot think of how they could be improved.

(xxiv) The process is very well run. The issues and their implications are complex and the subject of substantial analyses and discussions. The key points are well addressed in the UNECE. Other points are addressed outside the UNECE and that is appropriate.

(xxv) A contribution could be to create workshops for energy resources, where the moderator has the ability to integrate different experiences offered by representatives from each country in English language, useful considering the selection of translators if required.

(xxvi) Allow enough time for discussions and share information before the event.

(xxvii) I believe too many do not air their views as the number of participants makes some reticent, some are not good speaking in front of large gatherings, plus the language differences mean nuances are lost.

(xxviii) Perhaps asking for specific or burning questions from the floor prior to the meeting, as some do come with issues that they wish to air but do not take the opportunity.

(xxix) I had a chance to review the agenda for the previous meeting and it was structured well. Unfortunately I was not able to attend the meeting.

(xxx) Better meeting room would improve efficiency.

(xxxi) Meeting room is inadequate with screen at one side and the arrangement of long tables. Class room (or conference) arrangement would be better.

(xxxii) Having travelled far to attend, I think the least UN could do is provide bottled water for drinking.

(xxxiii) No idea, that is OK. Microphones and headphones in the room should be checked permanently by the staff since sometimes devices do not work or go wrong.

## F. Conducting part of the Expert Group on Resource Classification meeting discussions by electronic means

6. Respondents were offered an opportunity to provide additional comments in relation to conducting part of the Expert Group discussions by electronic means. The comments are provided below:

(i) Electronic communication media can be used for exchanging views and organize discussion sessions more effectively.

(ii) Some countries are highly sensitive on confidentiality.

(iii) Possibly some of the case studies by Webinar.

(iv) I believe some issues could be discussed through other means as described, but how and which topics I do not know.

(v) Pre-meetings via electronic communications might be an option for more effective meetings.

(vi) I think it would probably be difficult to manage the diversity of knowledge and views using virtual communication. However it may be valuable meet virtually between annual meetings in order to maintain momentum.

(vii) In Geneva more information will be available and experts will take more time to analyse.

(viii) Some people are not well accustomed to web or e-communications. The other means should be to network and follow-up UNECE meeting discussions, consultations.

(ix) Could try.

(x) The meetings are excellent, but the continuation of discussions through electronic means could probably supplement this to a greater extent. As a Bureau member, of course, this happens, but it could perhaps be extended. However, as always, this is a function on the limited time and resources of a very busy group of people.

(xi) Have two or three webinars/conference calls per year to update on activity and to discuss issues with one main meeting in Geneva once a year.

(xii) Personal discussions are important, however one may try getting participation via electronic media.

(xiii) Personal interactions are very important for free exchange of thoughts and ideas as well as a bond for future cooperation.

(xiv) Webinars addressing applications could be useful both from the point of view of energizing performers and for professionals, particularly new entrants who may not be on the right page in understanding what the UNFC is about. Regular, well-advertised shows at fixed times may be a solutions.

(xv) Face to face is always best – attendees need to be mindful they are there for a reason and to fulfil a role representing their own organisations/departments.

(xvi) Perhaps information needs to be shared from the attendees of how they canvass their own members and what they wish to achieve!

(xvii) Case studies can be presented throughout the year as soon as results are available.

## G. How the Expert Group on Resource Classification should work in the future

7. Respondents were offered an opportunity to provide additional comments as to how the Expert Group on Resource Classification should work in the future. These comments are provided below:

(i) I think is interesting to meet in other cities in addition to Geneva, so the spread is greater. The concepts and conclusions will be very good offers and fast.

(ii) A more accessible location is needed - Geneva is too difficult to get to compared to larger cities like London, Paris, or Frankfurt.

(iii) Once-a-year meeting is appropriate, less frequent will lead to fading interest.

(iv) I believe the UNFC has to carefully study the progress of their annual programs and outcomes of their activities such as providing expert advises and other technical assistance to mainly for developing countries. According to assessments it is better to decide about the time duration of the annual meetings.

(v) In order to get UNFC-2009 implemented around the world, it is important to meet regularly and discuss face to face.

(vi) The annual meetings may consider the need for interim electronic meetings and agree based on the program of work for the year.

(vii) Staff and annual meeting among experts are of great importance for increasing the commitment to the activities remaining to be developed.

(viii) I do not think that an annual meeting and more electronic meetings throughout the year are mutually exclusive. Both should occur.

(ix) I think the Geneva meetings highlight the importance but maybe perhaps shorter meetings and more electronic exchange, those more vocal and committed will be so regardless of the platform!

(x) During expert meetings, new ideas are brought up for proper discussion.

(xi) I expect that meetings could move to biennial in due course.

(xii) With UNFC-2009 completed, there should not be a need for frequent meetings, either face-to-face or electronic.

(xiii) During the Expert Group meetings, participants can continue to work together during breaks as well as sessions. This can lead to further exchange of discussions and ideas outside the official part.

(xiv) The Expert Group meetings are a very intensive and productive work period.

## H. Reasons for never having attended a UNFC workshop

8. Respondents were offered an opportunity to provide additional feedback on reasons for never having attended a UNFC Workshop. The feedback is provided below:

(i) Actual problems of developing countries and application constraints are not best understood by the Expert Group.

(ii) I do not think that the UNFC classification is valid or workable. There are far better classification schemes available such as JORC.

(iii) Priority to FRB standard aligned with CRIRSCO.

(iv) Conflict with other commitments.

(v) Not had the opportunity since taking the post in April 2013.

(vi) Another representative of my company has previously attended the above workshop. I will be attending this spring.

(vii) New member.

(viii) Colleague attended.

(ix) Staff attend.

(x) I participated in a number of workshops of the former UNFC (1997) as a speaker and I also organized a country seminar/workshop on the former UNFC in the Philippines on behalf of UN ESCAP.

(xi) I have only attended two IAEA-CYTED-UNECE workshops that have been listed before.

(xii) Travel support is needed for independent workers.

(xiii) I tried once in 2012, but I could not get visa to attend.

(xiv) Once I was nominated but Swiss Embassy in India failed to grant me a visa on time.

(xv) Our ministry has no idea about UNFC so we cannot travel and join any meeting or workshop even if we are very interested in the subject.

## I. How the content of UNFC workshops could be improved

9. Respondents were offered an opportunity to provide additional feedback as to how the content of UNFC workshops could be improved. The feedback is provided below:

(i) Content of workshops is about right.

(ii) Current content of UNFC workshops is good.

(iii) The UNECE Expert Group environment is dense in content. This causes the workshop to include substantial discussions about current agenda items in the Expert Group making them more an extension of and preparation for the EGRC meetings than workshops. This is good. Webinars or workshops in addition to the EGRC meeting workshop may be conducted in a different atmosphere where pure training comes through more strongly.

(iv) Inclusion of session providing an update on the status of UNFC.

(v) Inclusion of societal responsibilities of mining companies.

(vi) Inclusion of unorganized sector, where mining is confined and the only livelihood of local people and miners with low economies.

(vii) I do not know exactly what is discussed at these workshops, however real cases could help to better understand issues. Participants should bring their case studies which are discussed and solutions are proposed.

(viii) Inclusion of case study on application to renewable resources.

(ix) Specific discussion about renewables.

(x) Need to pay attention to implementation, and this can be achieved by teaching UNFC in geology, mining and economics courses.

(xi) Canvass participants of any specific aspects that they would like more information.

(xii) Do not know from personal experience, but informal feedback I have had from participants has been very favourable.

(xiii) I hope to have useful feedback after my participation at a workshop this year.

## Annex V

## Follow-up action plan of the Sustainable Energy subprogramme

| No | Recommendation | Follow-up action | Start/End | Staff member | Status |
|---|---|---|---|---|---|
| 1 | The secretariat, in cooperation with the Communications Task Force of the Expert Group, should develop and institute a targeted strategy to increase engagement by UNECE member States. | (i) Share self-evaluation report with the Communications Sub-Committee.<br>(ii) Prepare an assessment of which UNECE member States actively participate in the work of the Expert Group and/or use UNFC.<br>(iii) Develop a strategy to increase engagement by those UNECE countries that do not currently participate for review by the Bureau of the Expert Group and then implement final strategy. | April 2014<br>August 2014<br>October 2014 | Secretary of Expert Group on Resource Classification | |
| 2 | Increased outreach, with the support of CRIRSCO and the PRMS sponsoring organizations, should be undertaken to inform users and potential users of UNFC-2009 of the mutually beneficial relationship between UNFC-2009, the CRIRSCO Template and PRMS. Together with the generic specifications and bridging documents, the CRIRSCO Template and PRMS provide the technical foundation and keystones for the consistent application of UNFC-2009 for classifying solid mineral and petroleum reserves and resources. | (i) Circulate the self-evaluation feedback received to the Bureau of the Expert Group, on which CRIRSCO and PRMS sponsoring organizations are represented.<br>(ii) Review existing UNFC promotional material, including presentations, and identify any areas information where wording related to the positive UNFC/CRIRSCO Template/PRMS relationship could be improved or added. | April 2014<br>July 2014 | Secretary of Expert Group | |
| 3 | Educational and interactive tools need to be developed and circulated widely to demonstrate that (i) UNFC-2009 is not overly complex once users have familiarized themselves with the system, and (ii) the added flexibility and granularity provided by the three axes of UNFC offer grea' added value for resource classification and management. Additionally, a simplified case study should be prepared, in cooperation with the Technical Advisory Group and/or the Communications Sub-Committee, illustrating the process of estimating projects on each of three axes and how the information is stored and reviewed. | (i) In cooperation with the Communications Sub-Committee, develop an interactive UNFC programme that can be posted to the UNFC web pages.<br>(ii) Work with the Technical Advisory Group to prepare a simplified UNFC case study.<br>(iii) Post the case study to the UNFC web pages and deliver at UNFC workshops and other events. | April 2014 – on going<br>August 2014<br>2015 | Secretary of Expert Group | Interactive UNFC programme under development. |
| 4 | The education and outreach programme of the Expert Group on Resource Classification should be enhanced to ensure that the momentum currently achieved is maintained. Efforts should, in particular, be focused on UNECE countries and testing encouraged since the fewest number of case studies were undertaken in this region. The secretariat, in cooperation with the Communications Sub-Committee, should develop a centralized database of case studies | (i) Develop a centralized database of case studies.<br>(ii) Issue a series of case studies as a UNECE electronic publication.<br>(iii) Work with the Technical Advisory Group and the Communications Sub-Committee to prepare lessons learnt | April 2014 – on going<br>November 2014<br>2015 | Secretary of Expert Group | |

| No | Recommendation | Follow-up action | Start/End | Staff member | Status |
|---|---|---|---|---|---|
| | undertaken, as well as lessons learnt. | and/or guidance for users of UNFC. | | | |
| 5 | The secretariat should collate and pass the feedback provided by respondents on the benefit derived in undertaking a case study, pilot study or mapping exercise to the Technical Advisory Group of the Expert Group in view that one of the functions of the Technical Advisory Group is to provide advice on application of UNFC-2009. | Share the self-evaluation report with the Technical Advisory Group. | April 2014 | Secretary of Expert Group | |
| 6 | The Expert Group on Resource Classification should continue to review on a regular basis, at least every two years, whether UNECE continues to be the appropriate venue to maintain and further develop UNFC-2009. | Include an agenda item on the provisional agenda of Expert Group meetings every two years on "venue for development of UNFC-2009". | April 2016 | Secretary of Expert Group | |
| 7 | As a priority, the secretariat should work closely with the Expert Group on Resource Classification and its Bureau to seek to identify potential sources of extrabudgetary funding, to explore the potential for UNFC-2009 stakeholders to provide expert(s) on a secondment basis, and/or to approach member States directly with a view to identifying funds to support the recruitment of a Junior Professional Officer(s). | Discuss again the need for funding with the Bureau of the Expert Group. Develop a strategy and budget when there is agreement to do so. | July 2014 – on going | Secretary of Expert Group | Discussed by Bureau on a number of occasions but put on hold. |
| 8 | In order to ease the burden for the UNECE secretariat in implementing UNFC-2009, which is a global system, the secretariat should seek to work more closely with the United Nations Department of Economic and Social Affairs (UN DESA) and the other regional commissions to secure their assistance in disseminating information on UNFC-2009 and in the organization of regional and/or national workshops as appropriate. | (i) Invite DESA and all regional commissions to Expert Group meetings and workshops.<br>(ii) Invite ECA to co-organize the UNFC Workshop that will be held in South Africa, November 2014.<br>(iii) Write again to all regional commissions and DESA underlining the need for support. | April 2014 – on going<br>May 2014<br>June 2014 | Secretary of Expert Group | Contact made with DESA in 2014 to cooperate on the UNFC and renewables workshop, Washington, March 2014. |
| 9 | The secretariat should supplement annual meetings of the Expert Group with an increased number of communications, including electronic, throughout the year dependent upon the availability of relevant information and /or progress to share with the Expert Group. | Provide Expert Group with more information electronically between annual meetings and explore opportunity to organize Webinars. | May 2014 – on going | Secretary of Expert Group | |
| 10 | A series of case studies on application of UNFC-2009 to solid minerals and to petroleum should be identified and prepared in a standard format for inclusion at all future UNFC workshops. | Develop presentations on minerals and petroleum case studies suitable for inclusion in UNFC training workshops. | April 2014 – on going | Secretary of Expert Group | |
| 11 | A consistent message needs to be presented on UNFC worldwide. A series of standard presentations on UNFC-2009 varying in length and technical content for use with different audiences need to be developed as a matter of priority. Once approved by the Expert Group, these presentations should be circulated widely for use by all those who lecture and teach on UNFC. | (i) Work with the Communications Sub-committee to develop a series of standard PowerPoint presentations on UNFC and present them to the Expert Group at its fifth session (29 April – 2 May 2014) for comment and approval.<br>(ii) Once the presentations are approved agree with the Communications Sub-Committee how best to make them | April 2014 – on going | Secretary of Expert Group | Standard presentations being developed. |

| No | Recommendation | Follow-up action | Start/End | Staff member | Status |
|---|---|---|---|---|---|
| | | available and then implement this. | | | |
| 12 | A new area on the UNFC web pages should be created dedicated to case studies to facilitate a better understanding of UNFC-2009 and how it can be applied to solid minerals, uranium, petroleum and renewable energy. | (i) Review presentations delivered at previous Expert Group meetings and workshops and identify all those which are case studies or include information that could be used to develop a case study.<br>(ii) Create new area on UNFC pages for case studies and post the material. | July 2014 – on going<br>September 2014 | Secretary of Expert Group | |
| 13 | In order to benefit from the willingness and the time of the members of the Expert Group on Resource Classification to provide feedback that could lead to improvements in the relevance, efficiency and effectiveness of the programme and activities dedicated to support UNFC-2009, a similar survey should be repeated on a regular basis i.e. at least every year or two years and the results circulated to the Expert Group with proposed recommendations for follow-up action. | (i) Undertake a survey on UNFC and the Expert Group annually.<br>(ii) Circulate survey results to the Expert Group at the annual sessions. | November 2014 – on going | Secretary of Expert Group | |